

Scan Sheet 1, Exam A - Financial Statements

On Scan Sheet 1, Exam A, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

1. The purpose of the beginning balance sheet for Banyun Timber, recorded on 1/1/2020, is to show
 - A. if the business made a profit during the previous year.
 - B. the value of assets, liabilities and owner equity.
 - C. the change in owner equity for a given period.
 - D. the change in cash balances.
 - E. All of the above

2. Cash on hand on a business balance sheet would most closely correspond to which of the following?
 - A. The balance in the farm checking and savings account.
 - B. The balance in the farm checking and savings account plus other current assets.
 - C. The cash balance in the farm hedging account.
 - D. The value of stored grain inventory plus the value of market livestock.

Using the Banyun Timber balance sheets on pages R3 and R4 in the Resource Information, answer the following questions.

3. The beginning and ending balance sheets reveal the principal and interest due in 12 months on term debt. At the beginning of the year, the balance sheet shows \$_____ of principal was due. At the end of the year \$_____ of principal was due.
 - A. 10,925; 1831
 - B. 11,287; 13,632
 - C. 10,290; 12,560
 - D. 158,243; 286,885

4. The debt to asset ratio is a measure of the solvency of a farm business. Which of the following ratio(s) indicates the business is insolvent?
 - A. 15.1%
 - B. 35%
 - C. 90%
 - D. 106%

Participant Number _____

State Abbreviation _____

5. Compared to the beginning balance sheet, the ending balance sheet for the Banyuns reveals the amount of working capital _____ from the beginning to the end of the year.
 - A. increased
 - B. decreased
 - C. stayed the same
 - D. is like the best dairy operations in the USA

6. Valuation equity plus retained earnings plus contributed (or paid in) capital is equal to
 - A. total assets plus total liabilities.
 - B. total assets minus total liabilities.
 - C. net farm income from operations minus cash withdrawals from the business.
 - D. total assets plus total liabilities minus equity.

7. The Farm Finance Scorecard on Page R23 in the Resource Information shows the relative strength of the working capital to gross revenues measure for the Banyun operation at the end of 2020 is
 - A. vulnerable.
 - B. moderate.
 - C. strong.
 - D. None of the above

Using the 2020 Market Comparative Balance Sheets on Page R15 in the Resource Information, answer questions 8 and 9.

8. A review of the 2020 Market Comparative Balance Sheets, found on Page R15, reveals the asset with the greatest increase in value was _____ and the liability with the greatest increase was _____ (excluding "Total Farm Assets" & "Total Farm Liabilities" lines).
 - A. Other Long Term Assets; Total Intermediate Loans
 - B. Other Long Term Assets; Total Long Term Loan
 - C. Land; Total Long Term Loans
 - D. Retained Earnings; Total Long Term Assets

9. The change in retained earnings (Cost balance sheet) and net worth change (Market balance sheet) for timber producers that comprises the area average, on Page R22, was _____ than experienced by the Banyuns.
 - A. equal
 - B. higher
 - C. lower
 - D. non-existent since their larger operations were so different in comparative size.

Participant Number _____

State Abbreviation _____

10. An examination of the 2020 Monthly Cash Flow Plan Executive Summary on Page R5 in the Resource Information, reveals an estimated earned net worth change of \$ _____ and an ending working capital of \$ _____?
- A. 1,741,841; 18,895
 - B. 1,741,841; 25.1
 - C. 1,721,693; 19,895
 - D. 20,148; 18,895
11. The Banyuns purchased 240 acres of additional timber land in 2020. They eventually initiated a loan for \$142,229 at 4.75% interest with a local lender. However, when visiting with their lender, they entertained the idea of paying interest only for 9 months (270 days) before they started their principal payments. Calculate the daily interest (use 365 days/year). What would be the amount of interest they would be required to pay for 9 months?
- A. \$4,997.32
 - B. \$6,755.88
 - C. \$18.51
 - D. \$105,210.49
12. The financial statement that explains the changes in net worth is the
- A. balance sheet.
 - B. income statement.
 - C. statement of cash flows.
 - D. statement of owner equity.
13. Which of the following financial statements explains the change in cash balance for an accounting period?
- A. Balance sheet
 - B. Income Statement
 - C. Statement of Cash Flows
 - D. Statement of Owner Equity
14. How is the net farm income reported on the 2020 Income Statement calculated?
- A. Gross Cash Income – Total Cash Expense
 - B. Gross Cash Income – Total Cash Expense + Total inventory change + Depreciation
 - C. Gross Cash Income – Total Cash Expense \pm Total Inventory Change \pm Depreciation
 - D. Gross Cash Income – Total Cash Expense – Depreciation

Use the following scenario for calculations and answering questions 15-17. For the year of 2020, an area timber grower, Gregory and his spouse Tes, had timber product revenues of \$271,560 and cash expenses of \$215,955. Inventory values for the operation were \$13,482 lower at the end of the year than at the beginning. The total depreciation charge for the year was \$14,659. There are no capital item sales.

15. Calculate their net cash farm income.
 - A. \$145,368
 - B. \$55,605
 - C. \$43,123
 - D. \$27,464

16. Calculate their Net Operating Profit
 - A. \$145,368
 - B. \$55,605
 - C. \$43,123
 - D. \$27,464

17. Calculate the Net Farm Income.
 - A. \$145,368
 - B. \$55,605
 - C. \$43,123
 - D. \$27,464

18. Net farm income is used to pay for principal payment, social security and income taxes, family living and health care, and the crop input expenses for planting trees.
 - A. True
 - B. False

19. Accrual adjustments are made to cash income in an income statement to ensure
 - A. a more accurate explanation of the change in owner equity.
 - B. a better match of cash receipts and expenses within the statement of cash flows.
 - C. a better match of production with the expenses associated with the timing of production.
 - D. a better match of revenue and expenses reported to the Internal Revenue Service.

20. The amount of net farm income that has accumulated in the Banyun business since it began is
 - A. total net farm income.
 - B. retained earnings.
 - C. one source of owner liabilities.
 - D. A and B

21. In order for the amount of retained earnings of the Banyun Timber business to increase,
- A. the cash balance on the ending balance sheet must be larger than the cash balance on the beginning balance sheet.
 - B. the increase in asset value needs to be more than the net farm operating loss.
 - C. asset values on the ending balance sheet must be larger than asset values on the beginning balance sheet.
 - D. net farm income must be larger than money withdrawn from the business.
22. Net farm income for the Banyun Timber business represents a return to all the following except
- A. personal and non-business assets.
 - B. unpaid operator and family labor.
 - C. owner's investment in the business.
 - D. equity capital.
23. Located on Page R23, the "Farm Finance Scorecard" is used to determine the strength of the financial efficiency measures of a business. What are the ratings for the Banyun business operating expense ratio, depreciation expenses ratio, interest expense ratio and net farm income ratio?
- A. Vulnerable
 - B. Moderate
 - C. Strong
 - D. Not available
24. Relating to question 23, how do the financial **efficiency** measures of the Bunyan operation compare to the "Area Average Data", found on Page R17? Their scores are somewhat
- A. higher.
 - B. lower.
 - C. the same.
 - D. unavailable.
25. Compared to the **Market Profitability** measures for the Area Average, the corresponding value and scores for Banyun Timber for net farm income from operations, rate of return on assets, rate of return on equity, and operating margin are
- A. higher.
 - B. lower.
 - C. the same.
 - D. unavailable.

26. Personal income for Banyun Timber and the area average are found on Pages R14 and R21 and the term debt coverage ratio is found on Pages R5 and R9 in the Resource Information. What would be the effect upon the term debt coverage ratio value for Banyun Timber if their personal income was the same as the area average?
- A. Personal income does not impact this ratio.
 - B. It would be the same.
 - C. It would be more than 10.20.
 - D. It would be less than 10.20.
27. As you view Banyun Timber's Statement of Owner's Equity, found on Page R11 in the Resource Information, what would be the impact if the off-farm income was \$60,550 instead of \$121,100.
- A. Ending net worth would be \$1,706,718.
 - B. Ending net worth would be \$1,585,618.
 - C. The value of the total change in net worth would be \$18,741.
 - D. The value of the total change in net worth would be \$102,259.
28. As you view Banyun Timber's Statement of Cash Flows, found on Page R11 in the Resource Information, what would be the ending cash balance (farm and personal) if they had not purchased \$40,000 worth of personal assets.
- A. \$29,101
 - B. \$69,101
 - C. \$121,100
 - D. \$259,798
29. Which of the following is a source of farm revenue?
- A. Principal payments during the accounting period.
 - B. Interest payments during the accounting period.
 - C. Sale of timber produced during the accounting period.
 - D. Cash received from a new noncurrent loan to purchase a new tractor.
30. When using cash accounting records, a business will recognize
- A. income and expense transactions at the time of actual cash transactions.
 - B. income and expense transactions regardless of when they are incurred.
 - C. income when it is produced.
 - D. expenses when the item is used in the production process.

Scan Sheet 1, Exam B - Budgeting

On Scan Sheet 1, Exam B, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

1. If you are considering a change in the farm business that affects only a few items in the total farm budget, this change could most appropriately be evaluated using
 - A. a partial budget.
 - B. an enterprise budget.
 - C. a cash flow budget.
 - D. a total farm budget.

2. A whole farm schedule of expected returns and expenses is a
 - A. balance sheet.
 - B. partial budget.
 - C. budget.
 - D. depreciation schedule.

3. For a livestock budget to be meaningful, what value should be placed on raised crops fed?
 - A. The costs to produce these crops
 - B. Local market value plus 10%
 - C. Reported state average sale price
 - D. Local market value

4. Budgets are used in planning to evaluate the impact of future actions. To improve the accuracy of a budget, the operator may use
 - A. historical data.
 - B. forward contract pricing.
 - C. more than one source for estimated data.
 - D. All of the above

5. When determining the effect of growing more acres of a crop, the cost most likely to change would be
 - A. fixed costs per acre.
 - B. operating costs per acre.
 - C. rent per acre.
 - D. crop insurance per acre.

6. When an increase in the level of production of one enterprise causes a reduction in the level of production of another enterprise, these two enterprises are said to be
 - A. independent.
 - B. competitive.
 - C. complimentary.
 - D. supplementary.

7. A cash flow projection is a form of budgeting that is used to
- A. determine living expenses.
 - B. determine year-end asset values.
 - C. determine operating credit needs.
 - D. calculate total farm equity.
8. An enterprise budget is
- A. a physical and financial plan for the entire farm business for a specified period of time.
 - B. a statement of projected costs and returns associated with one production process, usually for one production cycle.
 - C. a record of past production performance, usually for one production cycle.
 - D. the tool used in analyzing only changes in the farm operation and the potential change in net income.
9. Budgeting is not used to
- A. determine the useful life of assets.
 - B. estimate the amount of credit needed.
 - C. allow for experimentation with possible outcomes before resources are committed.
 - D. All of the above
10. The cost of using a resource based on what it could have earned in the next best alternative is
- A. always a variable cost.
 - B. always a fixed cost.
 - C. an alternative cost.
 - D. an opportunity cost.
11. Which of the following would be considered a fixed cost?
- A. Hired seasonal labor
 - B. Depreciation on machinery
 - C. Crop production inputs
 - D. Feed purchases

Answer questions 12 - 14 using the Monthly Cash Flow information found on Page R5 and R6 in the Resource Information.

12. What is the projected Operating Profit Margin in 2020? *(Corrected to 2021 during exam)*
- A. -2.1%
 - B. 6.3%
 - C. 3.9%
 - D. 16.1%

Participant Number _____

State Abbreviation _____

13. What is the expected income from timber sales in 2021?
- A. \$14,080
 - B. \$207,470
 - C. \$68,800
 - D. \$27,360

14. What is the projected total Repairs expense for 2021?
- A. \$292
 - B. \$500
 - C. \$2,300
 - D. \$3,500

Answer the following 2 questions using the Banyun Timber and area average Executive Summary, found on Page R9 and R17 in the Resource Information.

15. How much lower is the Banyun's Interest Expense Ratio compared to the Area Average in 2020?
- A. 1.4 points
 - B. 1.8 points
 - C. 2.2 points
 - D. 1.6 points
16. How much lower would Banyun's Total expenses per acre be if they were equal to the Area Average in 2020? Round to the nearest cent.
- A. \$102.21
 - B. \$22.09
 - C. \$14.35
 - D. \$5,176.00

Answer the following 2 questions using the Banyun Timber Planting, Production, and Harvest Record found on Page R16 in the Resource Information.

17. How much more total income would Banyun receive from Pulpwood in 2021 if production per acre were to increase by 1 ton?
- A. \$1,280
 - B. \$15,360
 - C. \$88
 - D. \$2,880
18. What is the expected Average Production Per Acre in tons in 2023?
- A. 8 tons
 - B. 30 tons
 - C. 12 tons
 - D. 120 tons

Scan Sheet 1, Exam C – Cash Flow

On Scan Sheet 1, Exam C, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

Using the Banyun Timber Monthly Cash Flow Executive Summary on Pages R5 of the Resource Information, answer the following questions.

1. What was the Net Cash Flow projected for Banyun Timber?
 - A. -\$9,852
 - B. \$14,006
 - C. \$16,460
 - D. \$38,805

2. What is the projected Net Farm Income for Banyun Timber?
 - A. -\$9,852
 - B. \$14,006
 - C. \$16,460
 - D. \$38,805

3. One of the Banyun's business goals was to improve their Debt to Asset Ratio by 1% per year. Is their ratio projected to improve by 1%?
 - A. Yes
 - B. No

4. If there was a 10% increase in projected operating expenses, would the Term Debt Coverage Ratio be better or worse than the projected ratio listed on this page?
 - A. Better
 - B. Worse

Using the Banyun Timber Cash Flow Plan on Pages R6 and R7 of the Resource Information, answer the following questions. (Round calculations to xx.x)

5. What month is projected to have the highest total inflow?
 - A. March
 - B. August
 - C. September
 - D. October

6. Timber sales represent over 35% percent of the projected total inflow for the year.
 - A. True
 - B. False

Participant Number _____

State Abbreviation _____

7. What month has the highest total outflow?
 - A. January
 - B. March
 - C. April
 - D. June

8. Income Taxes are projected to be the single largest monthly outflow.
 - A. True
 - B. False

9. Crop inputs (seed, fertilizer, chemicals, and non-chemical weed control) represent 23% of total operating outflow.
 - A. True
 - B. False

10. Over \$80,000 is projected to be required to cover family living needs and income tax payments combined.
 - A. True
 - B. False

11. Which month is expected to have the highest total loan payment?
 - A. February
 - B. August
 - C. October
 - D. November

12. Which month is the annual operating loan projected to be paid off?
 - A. March
 - B. April
 - C. June
 - D. December

13. What are the total dollars needed for annual operating interest and principal payments?
 - A. \$26,371
 - B. \$14,006
 - C. \$14,184
 - D. \$28,190

14. What is the projected ending cash balance for Banyun Timber?

- A. \$23,871
- B. \$37,342
- C. \$38,805
- D. \$46,168

15. Is the projected cash flow positive or negative?

- A. Positive
- B. Negative

One value of cash flow planning is the fact that a projected balance sheet is available for the producer and lender to review. The projected balance sheet is based on the balance sheet at the beginning of 2021 and adjusted by the numbers in the cash flow plan. Use the Banyun Timber Balance Sheet and Financial Trends projection on Page R8 in the Resource Information to answer the following questions.

16. Cash and Checking is the single item asset, not a total, on the Balance Sheet that is projected to increase the most at year end.

- A. True
- B. False

17. Which single item liability, not a total, on the Balance Sheet is projected to reduce the most at year end?

- A. Accrued Interest
- B. Jones Land
- C. Matthews Land
- D. FCS-Adjoining Land

18. What is the projected asset turnover rate for 2021?

- A. -2.1%
- B. 3.9%
- C. 6.3%
- D. 13.5%

19. There are some key liquidity and repayment measurements listed for the projected year. Compare them to the current year actuals. Which of the following is a true statement?

- A. The Ending Current Ratio is projected to be dangerously high.
- B. Both Liquidity and Repayment measures are projected to improve.
- C. Liquidity measures are projected to weaken, but Repayment measures will improve.
- D. The Term Debt Coverage ratio projects a dangerous trend.
- E. Both Working Capital measures are projected to weaken.

Participant Number _____

State Abbreviation _____

20. What is the primary reason the income and social security tax payments are projected to be almost \$10,000 less?
- A. Total expenses are projected to be down.
 - B. Depreciation increased and gross income is projected to go down.
 - C. Net Farm income is projected to be down significantly.
 - D. Personal income is projected to be down by 10%.
 - E. All of the above
21. Which of the following statements is not a true statement about Cash Flow Projections?
- A. They can be based on an annual or monthly projections.
 - B. They provide information that helps guide decisions in the upcoming year.
 - C. They are more important to a lender for loan purposes than to the farmer for planning.
 - D. They include both known and unknown amounts of income and expense.

Scan Sheet 1, Exam D - Marketing

On Scan Sheet 1, Exam D, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

1. USDA may use _____ to collectively influence product supply, demand, and price as a marketing mechanism.
 - A. arbitrage
 - B. federal marketing orders
 - C. crop insurance
 - D. None of the above

2. Country A's currency has weakened relative to County B's currency. As a result, agricultural goods produced in Country A are now _____ in retail markets in Country B.
 - A. more expensive
 - B. less expensive
 - C. the same price as before
 - D. None of the above

3. COOL (Country of Origin Labeling) is a labeling law that requires retailers (e.g., grocery stores, supermarkets, club warehouse stores) to notify their customers with information regarding the source of certain foods.
 - A. True
 - B. False

4. Complete the definition: "Organic" is a labeling term that indicates that the food or other agricultural product has been produced using _____.
 - A. no chemical processes
 - B. no chemical inputs
 - C. approved methods
 - D. None of the above

5. Identify which of the following are true statements.
 - I. All agricultural products marketed using USDA's organic seal must first be certified by a USDA-certifying agent.
 - II. Organic agricultural products may not be subjected to radiation processes to be marketed with USDA's organic seal.
 - III. Products sold, labeled or represented as organic must have at least 95% certified organic content to be marketed with USDA's organic seal.
 - A. I and II
 - B. II and III
 - C. I and III
 - D. I, II and III

6. Farmer Smith grows corn, wheat and soybeans. When he looks at his production costs for the year, and specifically his average total cost across his enterprise, he's examining the farm's _____. When he focuses on his cost advantage as he produces more of any 1 of his crops he is examining the farm's _____.
- A. economies of scale, margin
 - B. economies of scope, margin
 - C. economies of scale, economies of scope
 - D. economies of scope, economies of scale
7. USDA uses a classified milk pricing formula for each of the 4 product categories based on end use. What product category is associated with a Class II milk price?
- A. Fluid/beverage milk
 - B. Soft/manufactured dairy products (e.g., yogurt, ice cream)
 - C. Hard cheeses
 - D. Butter and dry products (e.g., non-fat dry milk)
8. A shift in the supply curve could be explained by what factors?
- A. An increase in input prices
 - B. New technology
 - C. Government policy
 - D. B and C
 - E. A, B and C
9. What is the specified volume in a live cattle futures contract?
- A. 50,000 pounds
 - B. 40,000 pounds
 - C. 30,000 pounds
 - D. 20,000 pounds
10. A price slide in beef cattle marketing is a pre-determined adjustment in sale price because of the possible discrepancies in the number of cattle sold at the time of sale versus the delivery date weight.
- A. True
 - B. False
11. A rising cash price relative to the futures price is known as
- A. strengthening basis.
 - B. weakening basis.
 - C. under basis.
 - D. basis risk.

12. Corn futures contract months include
- A. February, March, May, July, December.
 - B. March, May, June, September, December.
 - C. March, May, July, September, December.
 - D. February, May, July, September, December.
13. A producer using the futures market to hedge the price of a commodity sold in the fall would take what action in May?
- A. Sell futures contracts expecting to buy them back when the commodity is sold.
 - B. Sell futures contracts expecting to sell more contracts when the commodity is sold.
 - C. Buy futures contracts expecting to buy more contracts when the commodity is sold.
 - D. Buy futures contracts expecting to sell those contracts when the commodity is sold.

Questions 14 - 26 reference the timber industry and/or the Banyun Timber case story.

14. Housing starts are a measure of the number of new housing units under construction. A change in housing starts is expected to be _____ correlated to market prices for lumber sold by the Banyuns.
- A. negatively
 - B. positively
 - C. Neither positive nor negative
15. Timber prices are a function of
- A. timber quality.
 - B. end use.
 - C. quantities supplied and demanded.
 - D. A, B and C
16. Which timber product would primarily be used for high-end furniture construction?
- A. Pulpwood
 - B. Chip-N-Saw
 - C. Veneer logs
 - D. Poles and pilings
17. Which product category would the Banyuns harvest and market first in their harvest rotation?
- A. Pulpwood
 - B. Chip-N-Saw
 - C. Sawtimber
 - D. Poles and pilings

Participant Number _____

State Abbreviation _____

18. Southern Pine is a primary species used for poles and pilings because of its availability, strength, and treatability.
 - A. True
 - B. False

19. Which supply-chain participant is the most likely buyer of veneer logs?
 - A. Landowner
 - B. Forester/Timber consultant
 - C. Harvester
 - D. Saw mill

20. Of the following timber products, which one has the most stringent density requirements?
 - A. Pulpwood
 - B. Energy wood
 - C. Chip-N-Saw
 - D. Poles and pilings

21. The Banyun family is considering adding a trucking line to their operation. This would be an example of _____ integration.
 - A. horizontal
 - B. vertical
 - C. expansion
 - D. None of the above

22. Log rules are
 - A. transportation/hauling regulations.
 - B. contract specifications.
 - C. formulas for estimating timber volume.
 - D. timber marketing orders.

23. One of the options the Banyuns is considering is selling recreational hunting permits on their forest land. Planting a mixed-stand on these grounds would _____ this possible goal.
 - A. support
 - B. discourage
 - C. neither help nor hurt

24. The Banyuns are comparing 2 harvest bids. One uses a delivered price while the other uses a stumpage price. The bid with the _____ is higher because _____.
 - A. delivered price, a larger volume of trees is harvested
 - B. delivered price, the trucking rate is included
 - C. stumpage price, a larger volume of trees is harvested
 - D. stumpage price, the trucking rate is included

The Banyuns are weighing whether to hire a forester to help with marketing. The last one they interviewed claims her marketing expertise results in a 2.5% premium for landowners. Assume a total stumpage value over rotation of \$2,740/acre or \$97.85/acre/year. Calculate the expected premium per acre.

25. The expected premium if the Banyuns choose this forester is
- A. \$195.70.
 - B. \$68.50.
 - C. \$127.20.
 - D. \$685.00.
26. Total expected stumpage value over the rotation if they choose this forester.
- A. \$2,935.70
 - B. \$2,867.20
 - C. \$2,808.50
 - D. \$3,425.00

The Banyuns are also trying to decide whether they should sell their sawtimber on a lump sum or per unit basis as it is the highest valued timber type with the most potential for capturing a volume and/or quality premium. Answer using the information provided below. Assuming Banyun Timber can meet the minimum sawtimber volumes:

27. Which sale type yields a higher return for Banyun Timber, lump sum or per unit?
- Lump sum - \$25.25/ton, minimum volume provided is 8 tons
Per unit - \$27.25/ton, minimum volume provided is 7.5 tons
- A. Lump sum
 - B. Per unit

Scan Sheet 1, Exam E – Income Tax

On Scan Sheet 1, Exam E, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

1. The main thing to keep in mind with regard to income tax management is to
 - A. minimize the tax obligation.
 - B. have zero taxes due.
 - C. maximize after tax income.
 - D. defer income taxes to the future.

2. Effective tax planning
 - A. sets the basis for personal financial goals.
 - B. is most effective with up-to-date records.
 - C. does not require long-range projections.
 - D. usually aligns with mid-year tax estimates.

3. The taxes that may be due when a person dies.
 - A. Timberland taxes
 - B. Estate taxes
 - C. Property taxes
 - D. Real Estate taxes

4. If a student has an FFA project and generates income, it is generally reported as Other Income on one of the 1040 forms.
 - A. True
 - B. False

Although not always perfectly clear, the determination of whether someone is self-employed, hired as an employee, or works as an independent contractor is fairly well defined. With the circumstances stated below, indicate whether the description indicates the characteristics of: *(Corrected during exam: A – D below are for information only, not a question)*

- A. A full-time employee
 - B. An independent contractor
 - C. A self-employed timber operation owner
 - D. A part-time employee

5. Advertises his/her services and expertise to the public.
 - A. A full-time employee
 - B. An independent contractor
 - C. A self-employed timber operation owner
 - D. A part time employee

6. Is paid for work assigned and generally earns fringe benefits with the job.
- A. A full-time employee
 - B. An independent contractor
 - C. A self-employed timber operation owner
 - D. A part-time employee
7. Provides work direction all others in the operation to support his/her activities.
- A. A full-time employee
 - B. An independent contractor
 - C. A self-employed timber operation owner
 - D. A part-time employee
8. Would receive a form 1099 for work done if more than \$600 in value.
- A. A full-time employee
 - B. An independent contractor
 - C. A self-employed timber operation owner
 - D. A part-time employee
9. Is informed when work is available, works as needed using employer's tools.
- A. A full time employee
 - B. An independent contractor
 - C. A self-employed timber operation owner
 - D. A part-time employee
10. When a timber owner trades in a piece of equipment, it
- A. is treated as a sale.
 - B. is added to the listed price of the new item.
 - C. remains on the depreciation schedule as basis value.
 - D. is considered a tax free adjustment.

For the questions 11 through 14, enter the number of years used to depreciate the listed assets. Choose zero (0) if the asset is not depreciable.

11. Used John Deere tractor
- A. 0 years
 - B. 3 years
 - C. 5 years
 - D. 7 years
 - E. 15 years

Participant Number _____

State Abbreviation _____

12. Computer used in the business

- A. 0 years
- B. 3 years
- C. 5 years
- D. 7 years
- E. 15 years

13. Timber land

- A. 0 years
- B. 3 years
- C. 5 years
- D. 7 years
- E. 15 years

14. Logging equipment

- A. 0 years
- B. 3 years
- C. 5 years
- D. 7 years
- E. 15 years

Taxes are complicated and numerous tax forms are used when filing a tax return with the IRS. Filing a tax return on timber adds another dimension to this process. Match the 2020 business items 15 through 19 with the correct corresponding tax form.

15. Sale of Sawtimber and Pulpwood

- A. Schedule F
- B. Schedule T
- C. Form 4797
- D. Form 4562

16. Deductions detailed for depreciation and amortization

- A. Schedule F
- B. Schedule T
- C. Form 4797
- D. Form 4562

17. Interest received from the bank

- A. Schedule B
- B. Schedule C
- C. Schedule D
- D. Schedule E

18. Capital Gains reported for Timber Sales
- A. Schedule B
 - B. Schedule C
 - C. Schedule D
 - D. Schedule E
19. Income from leasing timber land for recreational use
- A. Schedule F
 - B. Schedule T
 - C. Form 4797
 - D. Form 4562
20. The Banyun's Timber Sales are reported as capital gains income. One reason for that is the fact that they are owners and are raising timber with the intent to sell.
- A. True
 - B. False
21. Timber Sales is considered a farm income.
- A. True
 - B. False
22. Timber producers are not required to enter sales on Schedule T.
- A. True
 - B. False
23. The Banyuns purchased a different tractor in 2015 and decided to depreciate the asset. Another option would have been asset depletion when using section 179 in their tax reporting.
- A. True
 - B. False
- Paul and Lucy had considered the purchase of an additional tractor in 2019. This changed when the adjoining land came up for sale. They delayed the purchase the tractor until January 1, 2020. They are planning with the assumption that tax law will not change for an asset of this size. The purchase price was \$33,500. This was an outright purchase of a used tractor. The current new price of the same tractor is \$48,500. (Round answers up to the nearest whole number)
24. What will be the original basis of the tractor?
- A. \$15,000
 - B. \$33,500
 - C. \$48,500
 - D. \$82,000

25. What is the class life or expected years to depreciate this tractor?
- A. 3 years
 - B. 5 years
 - C. 7 years
 - D. 10 years
26. The tractor was considered “placed in service” on January 1 because that was the purchase date.
- A. True
 - B. False
27. If they had purchased this tractor on Jan 1 and chose to depreciate the tractor using MACRS straight line method, what will the first year of depreciation be?
- A. \$1,675
 - B. \$2,393
 - C. \$3,463
 - D. \$4,786
28. If they chose to use the section 179 option rather than depreciation and this is their only capital purchase, how much of the purchase price can they show as a deduction on their taxes?
- A. \$82,000
 - B. \$48,500
 - C. \$33,500
 - D. \$15,000

The Banyuns sell their timber using a cutting contract and meet the criteria needed to treat the sale as a section 1231 transaction. The adjusted basis for each acre of the timber sold is \$450. The total sales per acre for the parcel of land where the timber was harvested is \$2,104. Using this information, answer the following questions.

29. What is the gain for the sale of the timber?
- A. \$2,104
 - B. \$1,654
 - C. \$1,057
 - D. \$ 694
30. This sale is considered to be what type of income for taxes?
- A. Ordinary
 - B. Capital Gain
 - C. Depreciable
 - D. Non-taxable

Scan Sheet 1, Exam F – Investment Analysis

On Scan Sheet 1, Exam F, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

Paul and Lucy are well equipped with their operation. However, from time to time they need to move logs (downed logs from storms, diseased logs, large limbs, etc). It would be more efficient if they could move these with heavy equipment rather than cutting the material into small pieces manageable by hand. They have looked into a skid steer for the job and determined if they added the right attachments, they could do all the 50 hp tractor work plus this lifting. They can get \$26,000 by trading in their 50 hp John Deere tractor for a slightly used 863 Bobcat Skid-Steer with tracks. The Bobcat has a price tag of \$50,000 and would carry a warranty that covers all labor and parts for 5 years. They believe they could sell their bush hog for \$1,800 and find a used, heavy duty brush cutter for \$4,500 for the skid-steer. The trade-in and proceeds from the private sale of current equipment would be used for their down payment and the couple plans to finance the remainder. The local credit union will give the Banyuns an equipment loan for 5% fixed rate for seven years. Fill in the blanks in the following table.

(5% fixed rate is noted as a distraction, actual rate was 3.3%)

EQUIPMENT	TRADE-IN/SALE VALUE	PURCHASE PRICE	BALANCE
Tractor/Skid-Steer	26,000	50,000	24,000
Cutter	1,800	3,800	2,000
Total Loan Amount			26,000

YEAR	ANNUAL PAYMENT	INTEREST PAYMENT	PRINCIPAL PAYMENT	BALANCE
0				26,000
1	4,220	858	3,362	22,638
2	4,220	747	3,473	19,165
3	4,220	_____	3,588	15,577
4	4,220	514	_____	_____
5	4,220	391	3,829	8,042
6	4,220	265	3,955	4,087
7	4,220	133	4,087	_____

1. What is the interest payment for year three?

- A. \$747
- B. \$632
- C. \$514
- D. \$391

2. What is the principal payment for year four?
 - A. \$4,220
 - B. \$3,588
 - C. \$3,706
 - D. \$3,829

3. What is the loan balance after the payment in year four?
 - A. \$11,871
 - B. \$15,577
 - C. \$11,357
 - D. \$11,989

4. What is the loan balance at the end of year seven?
 - A. \$133
 - B. \$4,087
 - C. \$0

5. What is the cumulative interest that will be paid on the loan?
 - A. \$29,540
 - B. \$26,000
 - C. \$4,087
 - D. \$3,540

6. The annual interest payment will remain constant from year to year.
 - A. True
 - B. False

7. The annual interest rate will not vary over the life of the loan.
 - A. True
 - B. False

8. Which of the following will change if the price of the skid steer increases?
 - A. Interest rate
 - B. Term length of the loan
 - C. Payment amount
 - D. None of the above

9. After considering what they can do with this skid steer and brush cutter, they believe they can save \$7,000 in expenses (\$2,000 in repairs and \$5,000 in custom hire work) per year. What would the payback period be to cover the cost of the investment? Round to the nearest whole number.
- A. 6 years
 - B. 7 years
 - C. 8 years
 - D. 9 years
10. The ideas that a dollar today is worth more than a dollar tomorrow, that people are charged interest for funds they borrow, or that investors receive payments in return for depositing money into a CD are all examples of
- A. present value.
 - B. future value.
 - C. interest rates.
 - D. time value of money.
11. If the Banyuns believe they can afford this annual payment, and are willing to, which of the following could result if an equipment dealer would make them a seven-year loan at 0% interest?
- A. The lower interest rate would help protect the Banyun's credit score.
 - B. They could reduce the amount they could spend on the skid steer and brush cutter equipment.
 - C. Their debt-asset ratio would be improved.
 - D. The Banyuns could take the savings from lower payments and invest them in other parts of the business.
12. If the bank were offering a 3/1 variable rate loan (interest rate is fixed for the first three years and can move up as much as a half percentage point each subsequent year), that would drop the initial payment to \$4,173. What is the greatest risk of taking this deal versus the original terms offered?
- A. The interest rate increases beyond double the original rate.
 - B. The payments will increase beyond the original payment level.
 - C. The interest rate increases could make the overall cost of the loan greater than the cost associated with the original terms.
13. The interest payments decrease with each year's payment because the interest rate declines as the principal declines.
- A. True
 - B. False

14. If the Banyuns make the original deal, they would help themselves reach their goal of decreasing their debt-asset ratio.
- A. True
 - B. False
15. If all else was kept the same, what would happen if the length of the loan was extended by three years (from seven to ten)?
- A. The amount of money borrowed would have to change.
 - B. The annual payment would be higher.
 - C. The annual payment would stay the same.
 - D. The annual payment would be lower.
16. The allowed time for the term of a machinery loan is set by the asset class.
- A. True
 - B. False
17. The Banyun's annual payment on this loan is comprised of the principal payment plus the interest payment.
- A. True
 - B. False

Scan Sheet 1, Exam G– Risk Management

On Scan Sheet 1, Exam G, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

1. Which of the following is an example of financial risk that applies to the Banyun's timber operation?
 - A. A change in timber prices
 - B. A change in interest rates
 - C. A change in housing demand
 - D. A and C but not B are examples of financial risk
 - E. A, B, and C are examples of financial risk

2. Which of the following is an example of legal risk?
 - A. A change in tariff rates and food export regulations
 - B. A change in consumers' tastes and preferences
 - C. A change in interest rates
 - D. A and C but not B are examples of legal risk
 - E. A, B, and C are examples of legal risk

3. Which of the following best describes risk transfer?
 - A. Paying another party to assume a portion of a risk
 - B. A methodology to reduce the severity of a risk
 - C. A methodology to reduce the frequency of a risk
 - D. Ceasing an activity to eliminate the possibility of incurring a loss
 - E. Setting aside funds to pay for any losses that may occur

4. _____ is an example of risk control.
 - A. An insurance policy
 - B. A fire suppression system
 - C. Following label directions when applying pesticides
 - D. B and C but not A
 - E. None of the above

5. A wildfire is an example of _____ risk.
 - A. market
 - B. legal
 - C. financial
 - D. human
 - E. production

6. Assume that the following current ratios are given for five farms. Based solely upon these ratios, which farm is at the greatest financial risk?
- A. 2.5
 - B. 1.3
 - C. 2.1
 - D. 1.9
 - E. 0.9
7. Adopting an appropriate integrated pest management system mitigates _____ risk.
- A. market
 - B. legal
 - C. financial
 - D. human
 - E. production
8. Which of the following is an example of market risk that applies to the Banyun's timber operation?
- A. A change in pine timber prices
 - B. A change in the number of paper mills near the farm
 - C. A switch from lumber to metal as a primary building material
 - D. A and C but not B are examples of market risk
 - E. A, B, and C are examples of market risk
9. A short-term disability insurance policy is an appropriate treatment for a farm owner's _____ risk.
- A. market
 - B. legal
 - C. financial
 - D. human
 - E. production
10. A farmer decides to use the futures market to hedge the price risk of timber production. What futures contract should the farmer use to hedge this risk?
- A. Crude oil
 - B. Lumber
 - C. Corn
 - D. Steel
11. A farmer would use the futures market with the objective to
- A. transfer risk.
 - B. increase risk.
 - C. participate in government farm programs.
 - D. obtain a loan.

12. When hedging, it is important that farmers close out both the cash and futures position
- A. prior to selling the crop.
 - B. simultaneously when selling the crop.
 - C. keep the futures position open to protect against price risk.
 - D. at any time.
13. To hedge using commodity futures, a farmer must
- A. use a broker.
 - B. create a margin account.
 - C. Both A and B
 - D. do nothing. A farmer can hedge over the internet without a broker or margin account.
14. Prescribed burning is a frequently used technique in forest management. While the practice is generally safe, sometimes fires become out of control. Which type of insurance would protect the Banyuns from the risk of lawsuits arising from a claim for damages caused by an out of control fire brought against the company?
- A. A Life Insurance Policy
 - B. A Health Insurance Policy
 - C. A Commercial Property Insurance Policy
 - D. A Commercial Liability Insurance Policy
15. Pine production is reliant on the chemical control of herbaceous weeds in the early establishment of the pine tree stand. If pine producers choose to apply herbicides, they have determined that the _____ risk, associated with yield loss and potential seedling death, is greater than the _____ risk associated with the misapplication of herbicides.
- A. legal, market
 - B. market, human
 - C. production, legal
 - D. human, production
16. Which of the following would be a part of an integrated plan to manage the human safety risks associated with a farming operation?
- A. Ensure that employees wear appropriate personal protective gear to prevent injuries.
 - B. Ensure that safe pesticide mixing and handling procedures are followed.
 - C. Have the appropriate insurance policies in place to pay for damages associated with work related injuries.
 - D. A and B
 - E. A, B, and C

17. Revenue protection coverage insurance only protects against
- A. a decline in price or yield.
 - B. a decline in price.
 - C. a decline in yield.
18. The yield protection in revenue protection insurance is based on
- A. the farm's actual production history of yields.
 - B. the county's actual production history of yields.
 - C. the state's actual production history of yields.
 - D. whatever yield coverage the farmer wants to buy.
19. The price protection in revenue protection insurance is based on
- A. the futures market.
 - B. the local cash market.
 - C. the U.S. Marketing-Year Average price.
 - D. a price determined by the USDA.
20. A farmer uses yield protection insurance to protect a corn crop. This type of insurance would protect against which of the following?
- A. Low prices
 - B. Low yields
 - C. Low yields and low prices
 - D. Failure of grain buyer to make a payment upon delivery
21. The difference between the cash price and the futures price is called the
- A. strike price.
 - B. premium.
 - C. basis.
 - D. spread.
22. Which of the following is not one of the steps in the risk management process?
- A. Identify
 - B. Retain
 - C. Plan
 - D. Prioritize
 - E. All of these are steps in the risk management process.
23. Which of the following risks should be transferred?
- A. A high frequency and high severity risk
 - B. A low frequency and high severity risk
 - C. A low frequency and low severity risk
 - D. A high frequency and low severity risk

Scan Sheet 1, Exam H - Farm Business Organization and Land Measurement

On Scan Sheet 1, Exam H, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 p

Part A - Farm Business Organization

1. If the Banyuns decided to join with other forestry producers to start a saw mill to add value to their forest products, which type of cooperative would they form?
 - A. Marketing
 - B. Credit
 - C. Purchasing
 - D. Processing
 - E. Service

The Banyuns were the heirs of a multi-generational Southern Pine forestry operation. While the couple is not yet at retirement age, they are beginning to think about the future. The Banyuns are particularly concerned about continuing their parents' tradition of leaving future generations their family forestlands.

2. Which of the following business organizations would best suit the Banyuns' goal of leaving their forestland for future generations of their family?
 - A. A Partnership
 - B. A Sole Proprietorship
 - C. A Cooperative
 - D. A Business Trust
 - E. None of these are appropriate
3. Which of the following is not a benefit of a corporate business structure?
 - A. Corporate income can be taxed at a lower rate than personal income.
 - B. Ownership is easily divided into shares.
 - C. A corporation does not dissolve with the death of an owner.
 - D. Can benefit estate planning.
 - E. All of the above are benefits of organizing as a corporation.
4. The most common type of business organization for US farms and ranches is the _____.
 - A. Corporation
 - B. Partnership
 - C. Sole Proprietorship
 - D. LLC
 - E. Cooperative

Participant Number _____

State Abbreviation _____

5. Choosing to organize a business as a(n) _____ provides entrepreneurs with the greatest potential to access equity capital.
 - A. Corporation
 - B. Partnership
 - C. Sole Proprietorship
 - D. LLC

6. Of the types of business organizations listed below, which would provide the least protection from legal liability to the owners?
 - A. An LLC
 - B. An S Corporation
 - C. A C Corporation
 - D. A Sole Proprietorship

7. Which of the following statements is not a best practice when selecting a business organization structure?
 - A. Business owners should select the simplest business organization that still meets their needs and goals.
 - B. Partnership agreements should always be signed, written agreements that are reviewed with the help of an attorney or other competent professional.
 - C. The business structure that minimizes the owner's tax liability is always the best choice for business owners.
 - D. Future plans and aspirations of the business owner should be taken into account when deciding the optimal business structure.

8. An owner of a C Corporation is also called a(n) _____.
 - A. director
 - B. stockholder
 - C. officer
 - D. member
 - E. trustor

9. An owner of an LLC is also called a(n) _____.
 - A. director
 - B. stockholder
 - C. officer
 - D. member
 - E. trustor

10. If a farm business owner wishes to organize her business as simply as possible with minimal filing requirements, but wishes to have some liability protections, which type of organization should she choose?
- A. A C Corporation
 - B. A Limited Partnership
 - C. A Sole Proprietorship
 - D. An LLC
 - E. A Cooperative
11. According to the IRS code, owners of a C Corporation must be US citizens.
- A. True
 - B. False
12. According to IRS rules, C Corporations may have more than 100 stockholders.
- A. True
 - B. False
13. Cooperatives allow farmers and ranchers to gain market power by combining their resources.
- A. True
 - B. False
14. Business trusts are a particularly useful form of business organization for accessing equity capital.
- A. True
 - B. False

Part B - Land Measurement

15. How many acres are in a half section?
- A. 80
 - B. 160
 - C. 320
 - D. 640
16. Generally, parcels of land that are irregular in shape are legally described by using
- A. rectangular survey.
 - B. metes and bounds.
 - C. triangular survey.
 - D. Either A or B

Participant Number _____

State Abbreviation _____

17. An acre equals _____ square feet.
- A. 23,040
 - B. 43,560
 - C. 64,000
 - D. 12,346
18. How many sections are usually in a township?
- A. 12
 - B. 24
 - C. 36
 - D. 48
19. Generally, parcels of land that are located in a city subdivision are legally described by using
- A. metes and bounds.
 - B. recorded plats.
 - C. rectangular survey.
 - D. None of the above
20. Some properties in the U.S. do not have some form of legal land description.
- A. True
 - B. False
21. The range refers to columns of townships running north and south (quadrangle).
- A. True
 - B. False
22. When reading a legal land description, you read it by
- A. reading it from the smallest to the largest parcel.
 - B. locating the section in the township.
 - C. finding the location in the quarter.
 - D. All of the above
23. Thomas Jefferson authorized a system of land measurements to define locations of properties in the western territory for the following main reasons.
- A. So that private ownership of property could be easily defined.
 - B. So that property could be exchanged to another owner more easily.
 - C. A checkerboard system was employed to create more reliable delineations.
 - D. All of the above
 - E. None of the above

Use the chart below of section 9 to answer questions 24 and 25.

Section 9

A.			
		C.	
B.			D.

24. How many acres are in parcel C?
- 80 acres
 - 40 acres
 - 20 acres
 - 10 acres
25. What is the legal description of parcel D?
- South 1/4 of the East 1/4 of Section 9.
 - Southeast 1/4 of the Southeast 1/4 of Section 9.
 - Southeast 1/4 of the South 1/4 of Section 9.
 - East 1/4 of the South 1/4 of Section 9.
26. There are approximately _____ acres in a township.
- 23,040
 - 22,050
 - 19,580
 - 64,000
27. A tier refers to the townships running east and west in six mile increments.
- True
 - False

Scan Sheet 1, Exam I - Analyzing the Agricultural Business, Part 1

On Scan Sheet 1, Exam I, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

Use the Executive Summary on Page R9 in the Resource Information for the Banyun Timber and the Executive Summary for Average Data on Page R17 to answer questions 1 through 6.

1. The Banyun Timber's Net Farm Income for 2020 was \$149,402.
 - A. True
 - B. False

2. The Banyun Timber operation consists of 1,000 acres.
 - A. True
 - B. False

3. Banyun Timber had a higher net farm income than the Area Average and had fewer acres.
 - A. True
 - B. False

4. The expense item that had the greatest impact on the difference in net farm income between Banyun Timber and the Area Average was
 - A. cash operating expense.
 - B. total operating expense.
 - C. depreciation.
 - D. interest paid.

5. Compare the beginning and ending values of the Liquidity Measures listed. Which measure(s) were worse at the end of the year for Banyun Timber?
 - A. Current Ratio
 - B. Working Capital
 - C. Working Capital to Gross Revenues
 - D. All of those listed
 - E. None of those listed

6. The Debt to Asset Ratio is a financial factor that represents
 - A. Total Debt minus Total Assets.
 - B. Total Debt divided by Total Assets - Equity.
 - C. Total Debt minus Current Debt divided by Total Assets.
 - D. Total Debt divided by Total Assets.

An explanation of the factors listed in the Repayment Capacity section of the Financial Standards Measures, for Banyun Timber and the Area Average, is found on page R11 and R19 of the Resource Information. Those factors include: capital debt repayment capacity, capital debt repayment margin, replacement margin, term debt coverage ratio, and replacement coverage ratio. Use that information to answer the questions below.

7. The capital debt repayment capacity for Banyun Timber is \$184,315.
 - A. True
 - B. False

8. Is their capital debt repayment capacity larger or smaller than the Area Average?
 - A. Larger
 - B. Smaller

9. What is the primary reason for the Banyun capital debt repayment capacity being larger or smaller than the area average?
 - A. Depreciation
 - B. Personal Income
 - C. Income taxes accrued
 - D. Interest on term debt

10. The term debt coverage ratio for the Area Average is 2.50.
 - A. True
 - B. False

11. Based on the term debt coverage ratio, both the Area Average and Banyun Timber are able to pay off annual term debt.
 - A. True
 - B. False

12. Which two items listed below are used to calculate the term debt coverage ratio?
 - A. Capital debt repayment margin and scheduled term debt payments
 - B. Capital debt repayment capacity and repayment margin
 - C. Capital debt repayment capacity and scheduled term debt payments
 - D. Scheduled term debt payments and capital debt repayment margin

Participant Number _____

State Abbreviation _____

Use the Business Overview on Pages R1 and R2 and the Planting, Production and Harvest Record on Page R16 of the Resource Information to answer the following questions.

13. Using the Banyun's harvest plan, how many different types of harvest events will happen on one acre of timber after planting and including the year that sawtimber is cut (Final Harvest)?
- A. 3
 - B. 4
 - C. 5
 - D. 6

Using Parcel D, answer the following questions. Use historical and planned amounts.

14. What is the total production of timber per acre, in tons, from planting through final harvest?
- A. 46
 - B. 58
 - C. 127
 - D. 148
15. What is the total value per acre of all timber sold, from planting through final harvest?
- A. \$548
 - B. \$644
 - C. \$2,573
 - D. \$2,741
16. What was the annual average value of protection per acre, from planting through final harvest?
- A. \$15.57
 - B. \$49.53
 - C. \$97.89
 - D. \$122.52

Using Parcel C, answer the following questions. Calculate to the nearest hundredth (x.xx).

17. What was the production per acre of Pulpwood from all harvest points for this parcel?
- A. 29.00
 - B. 37.94
 - C. 50.94
 - D. 66.94

Participant Number _____

State Abbreviation _____

18. What percent of the Pulpwood production was harvested in 2003, compared to the estimated total production at that growth stage? *(Corrected 2003 to 2004 during exam)*
- A. 14.0%
 - B. 48.3%
 - C. 50.0%
 - D. 61.5%
19. Over the life of an acre of timber, planting to final harvest, which product generally provides the most harvested tonnage off of that acre?
- A. Chip-n-Saw
 - B. Sawtimber
 - C. Pulpwood
 - D. Chipwood

Scan Sheet 1, Exam J - Analyzing the Agricultural Business, Part 2

On Scan Sheet 1, Exam J, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

Compare Banyun Timber enterprise information on Page R12 with the Area Average timber enterprise information on Page R20 of the Resource Information. (Note: Production data for the Sawtimber and Chip-n-Saw enterprises includes a number for "Value of other products". The dollar amount listed is for Pulpwood that is harvested off the same acres when those products are harvested. It is common for parts of the trees not used for Sawtimber and Chip-n-Saw to be taken as Pulpwood.)

1. What is the gross return per acre for Banyun's Sawtimber'89 enterprise?
 - A. \$0.00
 - B. \$2,030.20
 - C. \$2,104.02

2. How much more or less is the gross return of Banyun enterprise compared to the gross return of the Area Average Sawtimber?
 - A. \$73.82 more
 - B. \$73.82 less
 - C. \$1,689.13 more
 - D. \$1,689.13 less

Assume the Banyuns received \$8.00 per ton of Pulpwood (value of other products) on the sawtimber land. Assume the average sawtimber enterprise other product price was \$7.80 per ton of Pulpwood, slightly less than the other Pulpwood sales price. Using the value of other products dollar amount and the tons of sawtimber produced for each, calculate the total tons of timber produced per acre for each enterprise.

3. Total tons per acre for Banyun Timber
 - A. 81.30
 - B. 84.51
 - C. 90.24
 - D. 152.82

4. Total tons per acre for Area Average
 - A. 80.00
 - B. 89.00
 - C. 104.50
 - D. 150.20

Participant Number _____

State Abbreviation _____

For the following expense and return line items for Banyun Timber and the Area Average, identify which enterprise had the best or worst amount listed.

5. Highest net return per acre
 - A. Area Average – Sawtimber
 - B. Area Average – Chip-n-Saw
 - C. Area Average - Pulpwood
 - D. Banyun – Sawtimber’89

6. Highest total direct and overhead expenses
 - A. Banyun Just Planted Adjoining Land
 - B. Banyun 1996 farm
 - C. Area Average – Timber to plant (*Corrected to “Timber Just Planted” during exam*)
 - D. Area Average – Timber no product

7. Lowest return over direct expenses
 - A. Area Average – Timber just planted
 - B. Banyun 1996 farm
 - C. Area Average – No product
 - D. Banyun Just Planted Adjoining Land

Use the “Just Planted” enterprise for Banyun Timber (Page R13) and the Area Average (Page R20), to answer the following questions.

8. Which two Direct Expenses for Banyun Timber and the Area Average were the largest?
 - A. Fertilizer and Crop Chemicals
 - B. Crop Chemicals and Custom Hire
 - C. Seeds, Plants and Fertilizer
 - D. Seeds, Plants and Custom Hire

9. Using value per unit of \$8.00 per ton for Pulpwood, how many tons of Pulpwood production are needed to cover direct and overhead expenses for the Area Average?
 - A. 32.22
 - B. 36.29
 - C. 36.84
 - D. 37.78

10. Would it require more or less tons of Pulpwood for Banyun Timber to cover the cost of direct and overhead expenses?
 - A. More
 - B. Less

11. Based on your knowledge of the Banyun and the average Timber operation, and using the Resource Information, will the value of the first harvest of Pulpwood cover the direct and overhead expenses of planting the crop?
- A. Yes
 - B. No

Timber production can be a profitable business over the long term if the parcels are managed effectively. A key practice of long-term production and effective management strategies is the spacing between trees in the initial planting. Paul and Lucy have used university guidelines and past practice to identify the optimal planting level for their timber land. Their goal is to have at least 450 trees per acre at the beginning of the second year after planting. The Banyuns plant a slightly higher population per acre because there is some loss in the first year after planting. They try to maintain an 8 foot spacing between rows on the initial plant. (Round answers to the nearest whole foot.)

12. Their target population at the time of the initial planting is 495 trees per acre. Knowing the spacing between rows, how far apart should the tree seedlings be planted in each row to attain 495 trees/acre?
- A. 8
 - B. 11
 - C. 12
 - D. 88
13. During the first year, the Banyuns have averaged an 8% loss of the tree seedlings. What would be the number of trees remaining in the second year?
- A. 381
 - B. 414
 - C. 419
 - D. 455
14. For the tree seedlings that survived the first year, what is the average spacing between the tree seedlings in each row in the second year? Round to whole feet.
- A. 9
 - B. 12
 - C. 14
 - D. 91

Scan Sheet 2, Exam A – Family Living

On Scan Sheet 2, Exam A, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

Review the story of Banyun Timber (Pages R1 and R2), the 2020 Family Living Expense Summary (Page R14), and the Area Average Household and Personal Living Expenses (Page R21), before answering the following questions. Round answers to whole numbers and percentages to tenths, xx.x%.

1. What is the largest expenditure for the Banyun family?
 - A. Income and social security taxes
 - B. Health insurance
 - C. Food and meals expense
 - D. Personal savings and investments

2. What is the Total Personal Expenditure per person for the Area Average? Round answer to the nearest whole dollar.
 - A. \$22,320
 - B. \$31,098
 - C. \$66,960
 - D. \$93,294

3. Of the Total Family Living (not including Other Nonfarm Expenditures) what expense comprises the largest percentage of Total Family Living for the Banyuns?
 - A. Dwelling rent
 - B. Health insurance
 - C. Food and meals expense
 - D. Household supplies

4. The Banyun family spends how much per person on recreation? Round answer to the nearest whole dollar.
 - A. \$969
 - B. \$1,486
 - C. \$1,292
 - D. \$339

5. The Banyun family spends more per person than the Area Average for
 - A. health insurance.
 - B. household supplies.
 - C. food and meals expense.
 - D. clothing.

6. Which expense listed below would be the easiest to reduce?
 - A. Life insurance payments
 - B. Gifts
 - C. Income taxes
 - D. Health insurance

7. The Area Average spends more than nine percent of Total Family Living on which expense category(ies)?
 - A. Recreation
 - B. Health insurance
 - C. Food and meals expense
 - D. Both B and C

8. What percent of Total Family Living is spent on health insurance by the Banyun family? Round answer to tenth of a percent (xx.x%)
 - A. 5.4%
 - B. 11.0%
 - C. 22.6%
 - D. 25.1%

9. What amount per person does the Area Average spend on gifts? Round to the nearest whole dollar.
 - A. \$497
 - B. \$779
 - C. \$1,989
 - D. \$2,337

10. The Area Average spends at least seven percent of the Total Family Living on this expense category.
 - A. Recreation
 - B. Cash donations
 - C. Household supplies
 - D. Life insurance payments

11. Which expense item listed below would be the most difficult to reduce?
 - A. Medical care
 - B. Recreation
 - C. Clothing
 - D. Personal savings and investment

Participant Number _____

State Abbreviation _____

12. What percentage of Total Personal Expenditures does the Banyun family put toward personal savings and investments? Round answer to tenth of a percent (xx.x%)
- A. 18.8%
 - B. 32.5%
 - C. 36.9%
 - D. 66.8%

Scan Sheet 2, Exam B – Economic Principles

On Scan Sheet 2, Exam B, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

1. The term Change in Y over Change in X (or $\Delta Y/\Delta X$) is
 - A. Total Physical Product.
 - B. Marginal Physical Product.
 - C. Average Physical Product.
 - D. Marginal Cost.

2. The production function is the
 - A. economic relationship between firms and consumers.
 - B. production relationship between consumers and producers.
 - C. economic relationship between costs and prices.
 - D. physical relationship between inputs and output.

3. If APP is greater than MPP, you know that
 - A. APP is decreasing.
 - B. you are in stage 1 of the production function.
 - C. MPP is increasing.
 - D. APP is increasing.

4. The decision rule for moving from stage two to stage three of the production function is
 - A. Maximum APP.
 - B. $MPP = 0$.
 - C. $MPP = APP$.
 - D. Maximum MPP.

5. The denominator of the marginal cost equation includes change in
 - A. total cost.
 - B. input levels.
 - C. variable cost.
 - D. output levels.

6. MR is the addition to total
 - A. revenue from selling one more unit of output.
 - B. output from using one more unit of input.
 - C. revenue from maximizing production.
 - D. costs from using one more unit of input.

7. To mathematically determine the least cost combination of two inputs, find where the
 - A. marginal rate of substitution equals the average cost.
 - B. marginal cost equals the average cost.
 - C. marginal rate of substitution equals the price ratio.
 - D. price ratio equals the marginal product.

8. The cost for annual mowing of roads is classified as a
 - A. fixed cost.
 - B. variable cost.
 - C. average cost.
 - D. marginal cost.

9. With a typical production process, if total fixed cost is spread over increasing output, average fixed cost will
 - A. stay constant.
 - B. increase then decrease.
 - C. decrease then increase.
 - D. decrease.

10. Assuming a typical production function, rational producers will produce in
 - A. Stage 1.
 - B. Stage 2.
 - C. Stage 3.
 - D. Stage 4.

11. If the operation has a fixed cost of \$50 per acre when output yields 100 tons per acre, what is the fixed cost per acre when output increases to 120 tons per acre?
 - A. \$25 per acre
 - B. \$200 per acre
 - C. \$50 per acre
 - D. \$100 per acre

Participant Number _____

State Abbreviation _____

Complete this table and use to answer questions 12 – 15

X	Y	APP	MPP
0	0	----	
1		8	
2	20		16
3			
4	44		
5		9	
6		7	

12. When variable input is 5, then the output is

- A. 36.
- B. 44.
- C. 45.
- D. 42.

13. When Y is 44 then APP is

- A. 10.
- B. 11.
- C. 12.
- D. 9.

14. Using input level of 2 results in APP of

- A. 10.
- B. 11.
- C. 12.
- D. 9.

15. What is the MPP when moving from input level of 5 to 6?

- A. 8
- B. 1
- C. -3
- D. -5

Banyun Timber

Paul and Lucette Banyun, owners

Paul and Lucette (Lucy) Banyun were married in summer of 1994, after being childhood friends and serving as officers in the local FFA chapter for several years. Paul had just graduated from the Area Community and Technical College with an Associate Degree in Agricultural Sales. He has since worked for a regional fertilizer distributor for 27 years, starting as a driver to his current position as regional manager. Lucy graduated from the state's Land Grant University with a degree in Agricultural Education in 1996. She has been an Agriculture teacher for 25 years in a nearby community. The Banyuns have 2 children. Jean is 17 years old and is a senior in high school. Tommy is 15 years old and is a sophomore in high school. Jean is the local FFA President and Tommy is the Sentinel. Both children have helped with work in the business and are looking forward to that day when they will receive an income from the sale of timber products, as promised by their parents in return for their help with the trees. The Banyuns currently rent a house on the next-door neighbor's property while they consider options for building a new home.

Paul and Lucy did not have timber production in their short-term career goals. Sadly, however, Lucy's father passed away unexpectedly in 1996. Her mother had also passed away unexpected just the year before, and she was an only child. Her parents owned a 400-acre timber operation for many years, after they had inherited it from her mother's parents. Lucy anticipated that she would need to decide about the business at some point in the future, but this was a major change in their lives. Paul and Lucy understood that they needed to continue to work their normal jobs if they decided to keep the business. Timber production is a part-time business in most situations like this one, with small acreages. They knew going into that decision, that the timber industry provided a great opportunity to generate income, but the owner(s) of a timber production business needed to be able to demonstrate patience.

Income opportunities do not present themselves each year with timber production because tree growth is a slow process. It is not like planting corn and soybeans, or raising beef cattle, or running a dairy operation, where there is at least an annual income and often a monthly income. Each acre of timber production generates income about three times in a 25 to 30-year period. Those income opportunities are influenced by tree variety, weather conditions, and stand management. The production of timber is like other agricultural crop commodities because the trees are planted in the soil and have a life cycle that provides 1 or more opportunities for removing the product and replanting a new crop following harvest. Timber production is different from traditional crop commodities because the life cycle of trees is not 1-3 years, like crops such as corn and alfalfa. During the lifetime of a given planting, the 3 income opportunities from harvesting a timber product are not equally spread.

Timber harvests may include products such as: Pulpwood, Chip-n-Saw, and Sawtimber. Pulpwood is a product that is harvested early in the life of a timber stand and is taken in order to thin the stand to allow the remaining trees to grow to full size. This harvest removes about 50% of the stand and is generally taken about 12 – 14 years after the stand was planted. Pulpwood therefore comes from trees with a smaller diameter (5"– 9") and the whole tree is processed and sold to a

company where paper and related products are produced. (Prior to harvest, the standing volume of trees is about 60 tons per acre) Chip-n-Saw is a product that is harvested during the middle portion of the life of a timber stand and is also taken in order to thin the stand and allow the remaining trees to grow to full size. This harvest also removes about 50% of the stand and is generally taken about 19-21 years after the stand was planted. Chip-n-Saw comes from trees that are somewhat larger in diameter (8"– 13") and logs from the trees are sold to a company that produces small dimension lumber and chip-related materials. (Prior to harvest, the standing volume of trees has grown back to about 70 tons per acre) Sawtimber is the final product to be taken off the land, because it is the final harvest on the timber stand. All trees remaining in the stand would have grown to the size normally used for Sawtimber, generally large enough to be cut into dimension lumber. This harvest removes all remaining trees and is generally taken about 25-28 years after the stand was planted. (Prior to harvest, the standing volume of trees has again grown back, now at about 90 tons per acre) NOTE: Tree tops and smaller branches are not used for Chip-n-Saw and Sawtimber products. At the time of those harvests, parts of the tree stand are taken as Pulpwood.

The Banyuns did decide to continue the timber operation rather than selling the 400-acre timber operation. Those acres consisted of 4 parcels of land, each of which were planted to trees at four different times between 1969 and 1996. Since taking over the business, Paul and Lucy have purchased 4 additional parcels of land and planted them to trees. Those parcels total 600 acres and were purchased between 1999 and 2020. Decisions to purchase additional land were planned around harvest points on their current property. They now own 1,000 acres of timber, after a 240-acre purchased in 2020. As the business currently stands, the plantings can be classified into 4 different groups. For 2020, those acreage groups can be described as follows:

- Planted, pre Pulpwood harvest – 280 acres
- Post Pulpwood, pre Chip-n-Saw harvest – 280 acres
- Post Chip-n-Saw, pre Sawtimber harvest – 200 acres
- Purchased, just planted – 240 acres

As Paul and Lucy ponder on the future, they are looking for ways to bring one or both of their children into the operation. Over the past several years, the timber industry has been in what could be described as a slump. Marketing timber products depends on a 3-legged stool: the producer, the mill, and the logging trucker. All three have been impacted by the housing crash of 2008. In order to include one of the children in the operation, they need to find options for generating additional income from the timber land to support adding a partner(s) and managing in difficult times in the timber industry. One income opportunity they are considering is leasing out part of their acres for recreational hunting.

As a part of their business plan, prepared in 2019, the Banyuns had these goals listed:

- Expand timber acres to a total of 1,000 by 2024
- Develop a revised business plan to include Jean in the operation if she so chooses prior to 2024
- Identify one new tree variety to plant on the final 240-acre plot purchase.
- Improve our Debt to Asset Ratio by an average of 1% per year up to 2024

Monthly Cash Flow Plan Executive Summary

Projected Cash Flow Summary

Total operating inflow		185,125
Total operating outflow	(-)	135,887
Capital purchases	(-)	-
Capital sales	(+)	-
New credit	(+)	-
Loan payments	(-)	32,778
Net cash flow	(=)	16,460
Beginning cash balance	(+)	22,345
Operating loan borrowings	(+)	14,006
Operating loan principal payments	(-)	14,006
Ending cash balance	(=)	38,805

Beginning operating loan balance		-
Peak operating loan balance (Apr)		14,006
Ending operating loan balance		-

Projected Change in Working Capital

Change in cash		16,460
Change in current inventories	(+)	4,960
Change in princ due on term loans	(-)	5,481
Estimated change in working capital	(=)	15,939

Projected Income Statement

Gross cash farm income		75,125
Inventory change - income items	(+)	177
Gross revenue	(=)	75,302
Cash farm operating expense		55,887
Interest expense	(+)	18,979
Depreciation	(+)	15,072
Inventory change - expense items	(+)	-4,783
Total farm expense	(=)	85,154
Net farm income		-9,852

Projected Earned Net Worth Change

Net farm income		-9,852
Personal income	(+)	110,000
Family living expense	(-)	65,000
Income taxes accrued	(-)	15,000
Earned net worth change	(=)	20,148

Term Debt Coverage

Net farm income from operations		-9,852
Depreciation	(+)	15,072
Personal income	(+)	110,000
Family living expense	(-)	65,000
Income taxes accrued	(-)	15,000
Interest on term debt	(+)	14,106
Capital debt repayment capacity	(=)	49,325
Term debt payments		32,600
Capital debt repayment margin		16,725
Term debt coverage ratio		1.51

Financial Standards Measures

Liquidity	Beginning	Ending
Current ratio	1.1	1.9
Working capital	2,955	18,895
Working capital to gross revenue	3.9 %	25.1 %

Solvency (market)

Debt to asset ratio	16.1 %	15.1 %
Debt to equity ratio	0.2	0.2

Profitability (market)

Net farm income		-9,852
Rate of return on assets		-0.1 %
Rate of return on equity		-1.0 %
Operating profit margin		-2.1 %
EBITDA		19,503

Repayment Capacity

Term debt coverage ratio (farm)		1.51
Replacement margin coverage ratio		1.07

Efficiency

Asset turnover rate (market)		3.9
Operating expense ratio		74.1 %
Depreciation ratio		20.0 %
Interest expense ratio		19.0 %
Net farm income ratio		-13.1 %

Other

Term debt coverage (farm+personal)		1.51
Term debt to EBITDA		14.71

Shocks to Farm Term Debt Coverage Ratio

10% decrease in gross income		1.28
10% increase in operating expenses		1.34
3% increase in interest rates		1.19

	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>	<i>Total</i>
CASH INFLOWS													
Beg cash bal	22345	23871	31722	5748	-	-	1624	30447	59271	54485	46168	37342	22345
Timber	-	-	-	-	-	14080	27360	27360	-	-	-	-	68800
Pat dividend	-	1325	-	-	-	-	-	-	-	-	-	-	1325
Other farm	-	5000	-	-	-	-	-	-	-	-	-	-	5000
Pers. wages	9167	9167	9167	9167	9167	9167	9167	9167	9167	9167	9167	9167	110000
Total inflow	31512	39363	40889	14915	9167	23247	38151	66974	68438	63651	55335	46508	207470
CASH OUTFLOWS													
Seed	-	-	8000	-	-	-	-	-	-	-	-	-	8000
Fertilizer	-	-	6500	-	-	-	-	-	-	-	-	-	6500
Chemicals	-	-	13000	-	-	-	-	-	-	-	-	-	13000
NonChemprot	-	-	-	-	-	1200	-	-	-	-	-	-	1200
Pkg & supply	16	16	16	16	16	16	16	16	16	16	16	16	187
Fuel & oil	229	229	229	229	229	229	229	229	229	229	229	229	2750
Repairs	292	292	292	292	292	292	292	292	292	292	292	292	3500
Cust hire	1083	1083	1083	1083	1083	1083	1083	1083	1083	1083	1083	1083	13000
Labor	-	-	-	-	63	63	63	63	63	63	63	63	500
RE taxes	208	208	208	208	208	208	208	208	208	208	208	208	2500
Farm insur.	108	108	108	108	108	108	108	108	108	108	108	108	1300
Dues & fees	96	96	96	96	96	96	96	96	96	96	96	96	1150
Consultants	192	192	192	192	192	192	192	192	192	192	192	192	2300
Living/Draw	5417	5417	5417	5417	5417	5417	5417	5417	5417	5417	5417	5417	65000
Income taxes	-	-	-	15000	-	-	-	-	-	-	-	-	15000
Min end bal	5000	-	-	-	-	-	-	-	-	-	-	-	-
Tot. outflow	12641	7641	35141	22641	7703	8903	7703	7703	7703	7703	7703	7703	135887
Opr. surplus	18871	31722	5748	-7726	1464	14344	30447	59271	60735	55948	47632	38805	71583

	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>	<i>Total</i>
LOAN PAYMENTS													
FCS-Adjoin..	-	-	-	6280	-	-	-	-	-	6280	-	-	12560
FCS-Jones..	-	-	-	-	-	-	-	-	6250	-	-	-	6250
FCS-Matthe..	-	-	-	-	-	-	-	-	-	-	10290	-	10290
FCS-Smith..	-	-	-	-	-	-	-	-	-	3500	-	-	3500
Tot loan pay	-	-	-	6280	-	-	-	-	6250	9780	10290	-	32600
Surp. or def	18871	31722	5748	-14006	1464	14344	30447	59271	54485	46168	37342	38805	38983

ANNUAL OPERATING LOAN TRANSACTIONS & BALANCES

Beg AO bal	-	-	-	-	14006	12635	-	-	-	-	-	-	-
AO borrowing	-	-	-	14006	-	-	-	-	-	-	-	-	14006
AO int. pay	-	-	-	-	94	84	-	-	-	-	-	-	178
AO prin. pay	-	-	-	-	1371	12635	-	-	-	-	-	-	14006
End AO bal.	-	-	-	14006	12635	-	-	-	-	-	-	-	-
Accrued int.	-	-	-	-	-	-	-	-	-	-	-	-	-
End cash bal	23871	31722	5748	-	-	1624	30447	59271	54485	46168	37342	38805	38805

BALANCE SHEETS

	1/1/2021	Projected 1/1/2022
ASSETS		
Current Assets		
Cash and checking	22,345	38,805
Prepaid exp. & suppl.	456	500
Other current assets	1,123	1,300
Total current assets	23,924	40,605
Intermediate Assets		
Machinery	85,646	77,082
Titled vehicles	33,881	28,798
Total intermediate assets	119,527	105,880
Long Term Assets		
Land	1,159,600	1,159,600
Bldgs & improve.	28,500	27,075
Other long term	582,640	582,640
Total long term assets	1,770,740	1,769,315
Total farm assets	1,914,191	1,915,800
Personal assets	115,356	115,356
Total assets	2,029,547	2,031,156
LIABILITIES		
Current Liabilities		
Accrued interest	6,793	2,097
Prin due on term loans	13,632	19,113
Payables & accr exp	544	500
Total current liabilities	20,969	21,711
Intermediate Liabilities		
Total inter. liabilities	-	-
Long Term Liabilities		
FCS-Smith Land	15,496	12,683
FCS-Jones Land	40,458	36,307
FCS-Matthews Land	90,464	84,187
FCS-Adjoining Land	140,467	134,427
Total long term liab.	286,885	267,605
Total farm liabilities	307,854	289,315
Personal liabilities	-	-
Total liabilities	307,854	289,315
Net worth	1,721,693	1,741,841
Net worth change		20,148
Total debt to asset ratio	15 %	14 %

Financial Trends

Source	2020 FINAN	2021 Proj.
Income Statement		
Gross cash farm income	259,798	75,125
+ Inventory change (income items)	-8,477	177
= Gross farm income (accrual)	251,321	75,302
Total cash farm expense	84,219	74,866
+ Depreciation	13,241	15,072
+ Inventory change (expense items)	4,460	-4,783
= Total farm expense (accrual)	101,919	85,154
Net farm income from operations	149,402	-9,852
Net farm income	149,402	-9,852
Profitability (market)		
Rate of return on assets	0.9 %	-0.1 %
Rate of return on equity	0.2 %	-1.0 %
Operating profit margin	6.3 %	-2.1 %
Asset turnover rate	13.5 %	3.9 %
Liquidity & Repayment		
Current ratio (farm only)	1.14	1.87
Working capital (farm only)	2,955	18,895
Working capital to gross revenue	1.2 %	25.1 %
Term debt coverage ratio	10.20	1.51
Replacement margin coverage ratio	5.89	1.07
Efficiency Measures		
Operating expense ratio	29.9 %	74.1 %
Depreciation expense ratio	5.3 %	20.0 %
Interest expense ratio	5.4 %	19.0 %
Solvency (market, exclude def liab)		
Farm assets	1,914,191	1,915,800
Farm liabilities	307,854	289,315
Total assets	2,029,547	2,031,156
Total liabilities	307,854	289,315
Net worth	1,721,693	1,741,841
Net worth change	17,006	20,148
Net worth change (%)	3 %	1 %
Farm debt to asset ratio	16 %	15 %
Total debt to asset ratio	15 %	14 %
Other Information		
Personal income	121,100	110,000
Family living expense	63,598	65,000
Income and social security tax	24,543	15,000
Capital purchases	325,600	-

2020 Financial Analysis Executive Summary

Income Statement

Crop sales	252,482	
Crop inventory change	-	
Gross crop income		252,482
Livestock sales	-	
Livestock inventory change	-	
Gross livestock income		-
Government payments		-
Other cash farm income		7,316
Change in accounts receivable		-
Gain or loss on hedging accts		-
Change in other assets		-8,477
Gain or loss on breeding lvst		-
Gross farm income		251,321
Cash operating expense	75,590	
Change in prepaid exp and supplies	-256	
Change in growing crops	-	
Change in accounts payable	-245	
Depreciation	13,241	
Total operating expense		88,329
Interest paid	8,629	
Change in accrued interest	4,961	
Total interest expense		13,590
Total expenses		101,919
Net farm income		149,402

Other Measures

Total crop acres		1,000
Change in earned net worth	183,320	18 %
Change in market value net worth	41,809	3 %

Financial Standards Measures

Liquidity	Beg	End
Current ratio	0.94	1.14
Working capital	-782	2,955
Working capital to gross revenues	-0.3 %	1.2 %

Solvency (market)	Beg	End
Debt to asset ratio	15 %	20 %
Debt to equity ratio	0.18	0.25

Profitability	Cost	Market
Net farm income	149,402	8,340
Rate of return on assets	12.3 %	0.9 %
Rate of return on equity	13.9 %	0.2 %
Operating profit margin	62.5 %	6.3 %

Repayment Capacity		
Term debt coverage ratio (farm only)		10.20
Replacement margin coverage ratio		5.89

Efficiency	Cost	Market
Asset turnover rate	19.7 %	13.5 %
Operating expense ratio		29.9 %
Depreciation expense ratio		5.3 %
Interest expense ratio		5.4 %
Net farm income ratio		59.4 %

Other		
Term debt coverage (farm+personal)		10.20
Term debt to EBITDA		0.90

Information Accuracy

Cash discrepancy		0
Liability discrepancy		0
Cash discrepancy to gross revenue		0 %

Income Statement

Income	Quantity	Price	Amount	Expense	Amount
Timber, Sawtimber	9,756 bdf	25.00/bdf	243,900	Seed and plants	11,846
Timber, Pulpwood	1,073 bdf	8.00/bdf	8,582	Fertilizer	9,686
Patronage dividends, cash			1,329	Crop chemicals	19,116
Other farm income			5,987	Non-chemical crop protect	1,600
				Packaging and supplies	97
				Crop Custom hire	19,200
				Crop Consultants	2,280
				Interest	8,629
				Fuel & oil	2,136
				Repairs	4,170
				Hired labor	565
				Real estate taxes	2,470
				Farm insurance	1,273
				Dues & professional fees	1,150
Gross cash income			259,798	Total cash expense	84,219
				Net cash income	175,580
Inventory Changes	Beginning Inventory	Purchases	Sales	Ending Inventory	Inventory Change
Prepays and supplies	200			456	256
Other current assets	2,000			1,123	-877
Other assets	326,800	-	-	319,200	-7,600
Accounts payable	789			544	245
Accrued interest	1,831			6,793	-4,961
Total inventory change					-12,937
Net operating profit					162,643
Depreciation	Beginning Inventory	Purchases	Sales	Ending Inventory	Depreciation
Machinery and equipment	83,599	-	-	75,239	-8,360
Titled vehicles	34,426	-	-	30,983	-3,443
Buildings and improvement	28,766	-	-	27,328	-1,438
Total depreciation					-13,241
Net farm income					149,402

Profitability Measures		Cost	Market
(A)	Net farm income from operations	149,402	8,340
	Rate of return on assets (E/F)	12.3 %	0.9 %
	Rate of return on equity (G/H)	13.9 %	0.2 %
	Operating profit margin (E/I)	62.5 %	6.3 %
	Asset turnover rate (I/F)	19.7 %	13.5 %
	EBITDA	176,233	35,171
(B)	Change in market valuation	-	-141,062
(C)	Interest expense	13,590	13,590
(D)	Value of unpaid oper labor & mgmt	6,000	6,000
(E)	Return on farm assets (A+C-D)	156,992	15,930
(F)	Average farm assets	1,273,495	1,859,389
(G)	Return on farm equity (A-D)	143,402	2,340
(H)	Average farm net worth	1,033,493	1,531,506
(I)	Value of farm production	251,321	251,321

Liquidity Measures		Begin	End
(J)	Current assets	13,125	23,924
(K)	Current liabilities	13,907	20,969
	Current ratio (J/K)	0.94	1.14
	Working capital (J-K)	-782	2,955
	Change in working capital		3,738
	Working capital to gross revenues	-0.3 %	1.2 %

Solvency Measures (Market)		Begin	End
(L)	Total assets	1,876,838	2,029,547
(M)	Total liabilities	272,479	383,379
	Net worth (L-M)	1,604,359	1,646,168
	Net worth change		41,809
	Current debt to assets (K/J)	106 %	88 %
	Intermediate debt to assets	- %	- %
	Long term debt to assets	10 %	16 %
	Total debt to assets ratio (M/L)	15 %	19 %

Repayment Capacity

	Net farm income from operations	149,402
	Depreciation (+)	13,241
	Personal income (+)	121,100
	Family living expense (-)	63,598
	Income taxes accrued (-)	24,543
	Interest on term debt (+)	8,753
(N)	Capital debt repayment capacity (=)	204,355
(O)	Scheduled term debt payments	20,040
(P)	Capital debt repayment margin (N-O)	184,315
(Q)	Cash replacement allowance	14,662
	Replacement margin (P-Q)	169,653
	Term debt coverage ratio (N/O)	10.20
	Replacement coverage ratio (N/O+Q)	5.89

Statement of Owner's Equity			
(a)	Beginning net worth		1,604,359
	Net farm income		149,402
	Personal income (+)		121,100
	Family living expense (-)		63,598
	Income taxes accrued (-)		24,543
	Change in personal assets (+)		959
	Change in nonfarm accounts payable (+)		-
(b)	Total change in retained earnings (=)		183,320
	Change in market value of capital assets		-166,314
	Change in deferred liabilities (-)		-24,803
(d)	Total change in market valuation (=)		-141,511
(e)	Total change in net worth (b+d)		41,809
	Ending net worth		1,646,168

Statement of Cash Flows			
(f)	Beginning cash balance (farm & personal)		15,175
	Gross cash farm income		259,798
	Cash farm expenses (-)		84,219
(g)	Cash provided by operating activities (=)		175,580
	Sale of capital assets		-
	Purchase of farm land (-)		285,600
	Purchase of personal assets (-)		40,000
(h)	Cash provided by investing activities (=)		-325,600
	Money borrowed		142,229
	Principal payments (-)		11,242
	Personal income (+)		121,100
	Family living expense (-)		63,598
	Income taxes paid (-)		24,543
(i)	Cash provided by financing activities (=)		163,946
	Net change in cash (g+h+i)		13,926
	Ending cash balance (farm and personal)		29,101

Crop Enterprise Analysis

	<i>Timber 1969 Farm Owned</i>	<i>Timber 1980 Farm Owned</i>	<i>Timber Sawtimber'89 Owned</i>	<i>Timber 1996 Farm Owned</i>	<i>Timber Smith Farm Owned</i>	<i>Timber Jones Farm Owned</i>	<i>Timber Matthews Fm Owned</i>
Returns							
Acres	80.00	120.00	120.00	80.00	80.00	120.00	160.00
Unit	tons	tons	tons	tons	tons	tons	tons
Yield per acre	-	-	81.30	-	-	-	-
Share of production (%)	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Value per unit	-	-	25.00	-	-	-	-
Value of other products	-	-	71.52	-	-	-	-
Total product value	-	-	2104.02	-	-	-	-
Other crop income	-	-	-	-	-	-	-
Gross return per acre	-	-	2104.02	-	-	-	-
Direct Expenses							
Seed and plants	-	-	-	-	-	-	-
Fertilizer	-	-	-	-	-	-	-
Crop chemicals	-	-	-	-	-	-	-
Non-chemical crop protect	-	-	-	20.00	-	-	-
Packaging and supplies	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Custom hire	-	-	-	-	-	-	-
Hired labor	0.56	0.56	0.56	0.56	0.56	0.56	0.56
Consultants	2.28	2.28	2.28	2.28	2.28	2.28	2.28
Fuel & oil	2.14	2.14	2.14	2.14	2.14	2.14	2.14
Repairs	4.17	4.17	4.17	4.17	4.17	4.17	4.17
Total direct expenses	9.25	9.25	9.25	29.25	9.25	9.25	9.25
Return over direct expenses	-9.25	-9.25	2094.77	-29.25	-9.25	-9.25	-9.25
Overhead Expenses							
Real estate taxes	2.47	2.47	2.47	2.47	2.47	2.47	2.47
Farm insurance	1.27	1.27	1.27	1.27	1.27	1.27	1.27
Dues & professional fees	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Interest on long term debt	13.59	13.59	13.59	13.59	13.59	13.59	13.59
Machinery depreciation	11.80	11.80	11.80	11.80	11.80	11.80	11.80
Building depreciation	1.44	1.44	1.44	1.44	1.44	1.44	1.44
Total overhead expenses	31.72	31.72	31.72	31.72	31.72	31.72	31.72
Total dir & ovhd expenses	40.97	40.97	40.97	60.97	40.97	40.97	40.97
Net return per acre	-40.97	-40.97	2063.05	-60.97	-40.97	-40.97	-40.97
Government payments	-	-	-	-	-	-	-
Net return with govt pmts	-40.97	-40.97	2063.05	-60.97	-40.97	-40.97	-40.97
Labor & management charge	4.84	4.84	4.84	4.84	4.84	4.84	4.84
Net return over lbr & mgt	-45.81	-45.81	2058.21	-65.81	-45.81	-45.81	-45.81
Cost of Production Per Unit							
Total direct expenses	n/a	n/a	0.114	n/a	n/a	n/a	n/a
Total dir & ovhd expenses	n/a	n/a	0.50	n/a	n/a	n/a	n/a
Less govt & other income	n/a	n/a	-0.38	n/a	n/a	n/a	n/a
With labor & management	n/a	n/a	-0.32	n/a	n/a	n/a	n/a
Net value per unit	n/a	n/a	25.00	n/a	n/a	n/a	n/a
Machinery cost per acre	18.11	18.11	18.11	18.11	18.11	18.11	18.11
Est. labor hours per acre	0.24	0.24	0.24	0.24	0.24	0.24	0.24

CROP ENTERPRISE ANALYSIS (continued)

	<i>Timber Just Planted Adjoining Fm Owned</i>	<i>Timber Combined Owned</i>
Returns		
Acres	240.00	1000.00
Unit	tons	tons
Yield per acre	-	9.76
Share of production (%)	100.00	100.00
Value per unit	-	25.00
Value of other products	-	8.58
Total product value	-	252.48
Other crop income	-	-
Gross return per acre	-	252.48
Direct Expenses		
Seed and plants	49.36	11.85
Fertilizer	40.36	9.69
Crop chemicals	79.65	19.12
Non-chemical crop protect	-	1.60
Packaging and supplies	0.10	0.10
Custom hire	80.00	19.20
Hired labor	0.56	0.56
Consultants	2.28	2.28
Fuel & oil	2.14	2.14
Repairs	4.17	4.17
Total direct expenses	258.61	70.70
Return over direct expenses	-258.61	181.79
Overhead Expenses		
Real estate taxes	2.47	2.47
Farm insurance	1.27	1.27
Dues & professional fees	1.15	1.15
Interest on lng term debt	13.59	13.59
Machinery depreciation	11.80	11.80
Building depreciation	1.44	1.44
Total overhead expenses	31.72	31.72
Total dir & ovhd expenses	290.34	102.42
Net return per acre	-290.34	150.06
Government payments	-	-
Net return with govt pmts	-290.34	150.06
Labor & management charge	9.68	6.00
Net return over lbr & mgt	-300.02	144.06
Cost of Production Per Unit		
Total direct expenses	n/a	7.25
Total dir & ovhd expenses	n/a	10.50
Less govt & other income	n/a	9.62
With labor & management	n/a	10.23
Net value per unit	n/a	25.00
Machinery cost per acre	98.11	37.31
Est. labor hours per acre	0.48	0.30

Contributions to Overhead Expenses

Enterprise	Units	Contribution Per Unit	Total Contribution
Timber	1,000 Acres	181.79	181,786
Total contributions			181,786
Overhead expenses			
Real estate taxes			2,470
Farm insurance			1,273
Dues & professional fees			1,150
Interest on lng term debt			13,590
Machinery depreciation			11,802
Building depreciation			1,438
Total overhead expense			31,724
Total return over overhead expe			150,062

Nonfarm Summary

Personal Income	Amount
Personal wages & salary	121,100
Personal business income	-
Personal rental income	-
Personal interest income	-
Personal cash dividends	-
Tax refunds	-
Other personal income	-
Total personal income	121,100

Family Living Expenses

Number of family members	4
Food and meals expense	8,550
Medical care	3,465
Health insurance	14,387
Cash donations	3,050
Household supplies	5,944
Clothing	3,123
Personal care	1,988
Gifts	1,989
Education	1,356
Recreation	3,876
Utilities (household share)	1,455
Personal vehicle operating expenses	879
Dwelling rent	5,899
Household repairs	1,675
Personal interest	1,312
Disability / Long term care insurance	1,556
Life insurance payments	1,430
Personal property insurance	450
Miscellaneous	1,214
Total cash family living expense	63,598
Family living from the farm	-
Total family living	63,598
Furnishings and appliances	-
Personal vehicles	-
Personal business investment	-
Other intermediate assets	-
Personal real estate	-
Other long term assets	-
Personal savings and investments	42,506
Income and social security tax	24,543
Total personal expenditures	130,647

Comparative Balance Sheets (cost)

	2020 Beginning	2020 Ending
Current Assets		
Cash and checking	10,925	22,345
Prepaid exp. & supplies	200	456
Other current assets	2,000	1,123
Total Current Assets	13,125	23,924
Intermediate Assets		
Machinery and equipment	83,599	75,239
Titled vehicles	34,426	30,983
Total Intermediate Assets	118,025	106,223
Long Term Assets		
Land	649,000	934,600
Buildings and improvements	28,766	27,328
Other long term assets	326,800	319,200
Total Long Term Assets	1,004,566	1,281,128
Total Farm Assets	1,135,716	1,411,274
Total Personal Assets	72,250	115,715
Total All Assets	1,207,966	1,526,989
Current Liabilities		
Accrued interest	1,831	6,793
Accts pay & accr exp	789	544
Principal due on term loans	11,287	13,632
Total Current Liabilities	13,907	20,969
Total Intermediate Loans	0	0
Total Long Term Loans	158,243	286,885
Total Farm Liabilities	172,150	307,854
Total Personal Liabilities	0	0
Total All Liabilities	172,150	307,854
Equity		
Retained earnings	1,035,816	1,219,136
Retained earnings chg		183,320

Comparative Balance Sheets (market)

	2020 Beginning	2020 Ending
Current Assets		
Cash and checking	10,925	22,345
Prepaid exp. & supplies	200	456
Other current assets	2,000	1,123
Total Current Assets	13,125	23,924
Intermediate Assets		
Machinery and equipment	90,154	85,646
Titled vehicles	37,645	33,881
Total Intermediate Assets	127,799	119,527
Long Term Assets		
Land	874,000	1,159,600
Buildings and improvements	30,000	28,500
Other long term assets	759,664	582,640
Total Long Term Assets	1,663,664	1,770,740
Total Farm Assets	1,804,588	1,914,191
Total Personal Assets	72,250	115,356
Total All Assets	1,876,838	2,029,547
Current Liabilities		
Accrued interest	1,831	6,793
Accts pay & accr exp	789	544
Principal due on term loans	11,287	13,632
Total Current Liabilities	13,907	20,969
Total Intermediate Loans	0	0
Total Long Term Loans	158,243	286,885
Total Farm Liabilities	172,150	307,854
Total Personal Liabilities	0	0
Deferred liabilities	100,329	75,525
Total All Liabilities	272,479	383,379
Equity		
Retained earnings	1,035,816	1,219,136
Market valuation equity	568,543	427,032
Net worth	1,604,359	1,646,168
Net worth change		41,809

Banyun Timber - Planting, Production, and Harvest Record

History		Inherited (400 acres)				Purchased (600 acres)				Harvest Information: Units - Tons					Revenue years
		Parcel A	Parcel B	Parcel C	Parcel D	Smith Land	Jones Land	Matthews Land	Adjoining Land	Total Acres	Ave Prod per Acre	Average price	\$\$ / Acre	Total \$\$	
Year Acquired:	Initial Plant Yr:	1996	1996	1996	1996	1999	2004	2012	2020						
Cal Yr.	Year #	80 Ac.	120 Ac	120 Ac	80 Ac	80 Ac	120 Ac	160 Ac	240 Ac						
1996	1				Plant										1
1997	2														
1998	3														
1999	4	Sawtimber								80.0	80.0	\$25.00	\$2,000	\$160,000	2
		Pulpwood								80.0	8.0	\$8.00	\$64	\$5,120	
2000	5	Plant				Plant									
2001	6														
2002	7	Chip-n-Saw								120.0	18.0	\$18.00	\$324	\$38,880	3
		Pulpwood								120.0	12.0	\$8.00	\$96	\$11,520	
2003	8														
2004	9			Pulpwood						120.0	29.0	\$8.00	\$232	\$27,840	4
2005	10						Plant								
2006	11														
2007	12														
2008	13														
2009	14				Pulpwood					80.0	28.0	\$8.00	\$224	\$17,920	5
2010	15	Sawtimber								120.0	81.0	\$25.00	\$2,025	\$243,000	6
		Pulpwood								120.0	8.0	\$8.00	\$64	\$7,680	
2011	16		Plant												
2012	17	Chip-n-Saw								120.0	17.0	\$18.00	\$306	\$36,720	7
		Pulpwood								120.0	13.0	\$8.00	\$104	\$12,480	
2013	18						Plant								
2014	19	Pulpwood				Pulpwood				160.0	29.0	\$8.00	\$232	\$37,120	8
2015	20														
2016	21														
2017	22	Chip-n-Saw								80.0	18.0	\$18.00	\$324	\$25,920	9
		Pulpwood								80.0	12.0	\$8.00	\$96	\$7,680	
2018	23						Pulpwood			120.0	29.0	\$8.00	\$232	\$27,840	10
2019	24														
2020	25	Sawtimber							Plant	120.0	81.3	\$25.00	\$2,033	\$243,900	11
		Pulpwood								120.0	8.94	\$8.00	\$72	\$8,582	

Future Plan		Inherited (400 acres)				Purchased (600 acres)				Harvest Information: Units - Tons					Revenue years
		Parcel A	Parcel B	Parcel C	Parcel D	Smith Land	Jones Land	Matthews Land	Adjoining Land	Total Acres	Ave Prod per Acre	Average price	\$\$ / Acre	Total \$\$	
Cal Yr.	Year #	80 Ac.	120 Ac	120 Ac	80 Ac	80 Ac	120 Ac	160 Ac	240 Ac						
2021	26	Chip-n-Saw			Plant	Chip-n-Saw				160.0	19.0	\$18.00	\$342	\$54,720	12
		Pulpwood				Pulpwood				160.0	11.0	\$8.00	\$88	\$14,080	
2022	27														
2023	28		Pulpwood							120.0	30.0	\$8.00	\$240	\$28,800	13
2024	29				Sawtimber					80.0	81.0	\$25.00	\$2,025	\$162,000	14
					Pulpwood					160.0	9.0	\$8.00	\$72	\$11,520	
2025	30				Plant			Pulpwood		160.0	9.0	\$8.50	\$77	\$12,240	15
2026	31						Chip-n-Saw			120.0	18.0	\$18.00	\$324	\$38,880	16
							Pulpwood			120.0	12.0	\$8.00	\$96	\$11,520	
2027	32														
2028	33														
2029	34	Sawtimber				Sawtimber				160.0	81.0	\$25.50	\$2,066	\$330,480	17
		Pulpwood				Pulpwood				160.0	9.0	\$8.50	\$77	\$12,240	
2030	35	Plant	Chip-n-Saw			Plant				120.0	18.0	\$19.00	\$342	\$41,040	18
			Pulpwood							120.0	12.0	\$8.50	\$102	\$12,240	
2031	36														

2020 Area Average Data

2020 Financial Analysis Executive Summary

Income Statement

Crop sales	270,557	
Crop inventory change	-	
Gross crop income		270,557
Livestock sales	-	
Livestock inventory change	-	
Gross livestock income		-
Government payments		-
Other cash farm income	8,106	
Change in accounts receivable	448	
Gain or loss on hedging accts	1,245	
Change in other assets	-35,028	
Gain or loss on breeding lvst	-	
Gross farm income		245,328
Cash operating expense	71,406	
Change in prepaid exp and supplies	1,456	
Change in growing crops	-	
Change in accounts payable	-	
Depreciation	16,504	
Total operating expense		89,366
Interest paid	18,168	
Change in accrued interest	-438	
Total interest expense		17,730
Total expenses		107,095
Net farm income		138,233

Other Measures

Total crop acres		1,223
Change in earned net worth	138,499	10 %
Change in market value net worth	22,804	1 %

Financial Standards Measures

Liquidity	Beg	End
Current ratio	0.89	1.00
Working capital	-2,466	-55
Working capital to gross revenues	-1.0 %	0.0 %

Solvency (market)	Beg	End
Debt to asset ratio	18 %	16 %
Debt to equity ratio	0.21	0.20

Profitability	Cost	Market
Net farm income	138,233	22,538
Rate of return on assets	9.2 %	1.4 %
Rate of return on equity	9.9 %	1.0 %
Operating profit margin	63.3 %	16.1 %

Repayment Capacity	Cost	Market
Term debt coverage ratio (farm only)		3.57
Replacement margin coverage ratio		2.50

Efficiency	Cost	Market
Asset turnover rate	14.5 %	9.0 %
Operating expense ratio		29.7 %
Depreciation expense ratio		6.7 %
Interest expense ratio		7.2 %
Net farm income ratio		56.3 %

Other	Cost	Market
Term debt coverage (farm+personal)		3.57
Term debt to EBITDA		1.73

Information Accuracy

Cash discrepancy	0
Liability discrepancy	0
Cash discrepancy to gross revenue	0 %

Income Statement

Income	Quantity	Price	Amount	Expense	Amount
Timber, Sawtimber	8,160 bdft	24.50/bdft	199,920	Seed and plants	7,134
Timber, Pulpwood	5,407 bdft	7.91/bdft	42,772	Fertilizer	6,088
Timber, Chip-n-Saw	1,570 bdft	17.75/bdft	27,865	Crop chemicals	11,679
Patronage dividends, cash			2,356	Non-chemical crop protect	4,421
Crop insurance income			5,750	Crop Custom hire	10,978
				Crop Consultants	4,435
				Crop Miscellaneous	4,134
				Interest	18,168
				Fuel & oil	4,789
				Repairs	5,467
				Hired labor	989
				Real estate taxes	4,738
				Farm insurance	3,567
				Dues & professional fees	2,987
Gross cash income			278,663	Total cash expense	89,574
				Net cash income	189,089
Inventory Changes	Beginning Inventory	Purchases/Deposits	Sales/Withdrawals	Ending Inventory	Inventory Change
Prepays and supplies	1,456			-	-1,456
Accounts receivable	786			1,234	448
Hedging gains or losses	-	-	1,245	-	1,245
Other current assets	2,345			2,567	222
Other assets	519,150	-	-	483,900	-35,250
Accounts payable	544			544	-
Accrued interest	7,026			6,588	438
Total inventory change					-34,353
Net operating profit					154,736
Depreciation	Beginning Inventory	Purchases	Sales	Ending Inventory	Depreciation
Machinery and equipment	82,840	-	-	74,556	-8,284
Titled vehicles	36,579	-	-	31,092	-5,487
Buildings and improvement	27,328	-	-	24,595	-2,733
Total depreciation					-16,504
Net farm income					138,233

Profitability Measures		Cost	Market	Statement of Owner's Equity		
(A)	Net farm income from operations	138,233	22,538	(a)	Beginning net worth	2,381,634
	Rate of return on assets (E/F)	9.2 %	1.4 %		Net farm income	138,233
	Rate of return on equity (G/H)	9.9 %	1.0 %		Personal income (+)	34,560
	Operating profit margin (E/I)	63.3 %	16.1 %		Family living expense (-)	66,960
	Asset turnover rate (I/F)	14.5 %	9.0 %		Income taxes accrued (-)	17,435
	EBITDA	172,466	56,771		Change in personal assets (+)	49,601
(B)	Change in market valuation	-	-115,695		Change in nonfarm accounts payable (+)	500
(C)	Interest expense	17,730	17,730	(b)	Total change in retained earnings (=)	138,499
(D)	Value of unpaid oper labor & mgmt	700	700		Change in market value of capital assets	-136,112
(E)	Return on farm assets (A+C-D)	155,262	39,567		Change in deferred liabilities (-)	-20,417
(F)	Average farm assets	1,693,651	2,731,507	(d)	Total change in market valuation =	-115,695
(G)	Return on farm equity (A-D)	137,533	21,838	(e)	Total change in net worth (b+d)	22,804
(H)	Average farm net worth	1,384,493	2,266,672		Ending net worth	2,404,438
(I)	Value of farm production	245,328	245,328			
Liquidity Measures		Begin	End	Statement of Cash Flows		
(J)	Current assets	20,276	23,587	(f)	Beginning cash balance (farm & personal)	25,564
(K)	Current liabilities	22,742	23,642		Gross cash farm income	278,663
	Current ratio (J/K)	0.89	1.00		Cash farm expenses (-)	89,574
	Working capital (J-K)	-2,466	-55		Net cash from hedging transactions (+)	1,245
	Change in working capital		2,411	(g)	Cash provided by operating activities (=)	190,334
	Working capital to gross revenues	-1.0 %	0.0 %		Sale of capital assets	-
Solvency Measures (Market)		Begin	End		Purchase of farm land (-)	105,200
(L)	Total assets	2,868,548	2,847,694		Purchase of personal assets (-)	8,899
(M)	Total liabilities	486,914	443,255	(h)	Cash provided by investing activities (=)	-114,099
	Net worth (L-M)	2,381,634	2,404,438		Money borrowed	-
	Net worth change		22,804		Principal payments (-)	22,303
	Current debt to assets (K/J)	112 %	100 %		Personal income (+)	34,560
	Intermediate debt to assets	- %	- %		Family living expense (-)	66,960
	Long term debt to assets	11 %	11 %		Income taxes paid (-)	17,435
	Personal debt to assets	1 %	- %	(i)	Cash provided by financing activities (=)	-72,138
	Total debt to assets ratio (M/L)	17 %	16 %		Net change in cash (g+h+i)	4,097
					Ending cash balance (farm and personal)	29,661
Repayment Capacity						
	Net farm income from operations		138,233			
	Depreciation (+)		16,504			
	Personal income (+)		34,560			
	Family living expense (-)		66,960			
	Income taxes accrued (-)		17,435			
	Interest on term debt (+)		19,703			
(N)	Capital debt repayment capacity (=)		124,604			
(O)	Scheduled term debt payments		34,875			
(P)	Capital debt repayment margin (N-O)		89,729			
(Q)	Cash replacement allowance		14,994			
	Replacement margin (P-Q)		74,736			
	Term debt coverage ratio (N/O)		3.57			
	Replacement coverage ratio (N/O+Q)		2.50			

Crop Enterprise Analysis

	<i>Timber Pulpwood Owned</i>	<i>Timber Sawtimber Owned</i>	<i>Timber Chip-n-Saw Owned</i>	<i>Timber Just Planted Owned</i>	<i>Timber No Product Owned</i>	<i>Timber Combined Owned</i>
Returns						
Acres	125.00	102.00	86.00	130.00	780.00	1223.00
Unit	tons	tons	tons	tons	tons	tons
Yield per acre	28.00	80.00	18.26	-	-	10.82
Share of production (%)	100.00	100.00	100.00	100.00	100.00	100.00
Value per unit	7.90	24.50	17.75	-	-	19.31
Value of other products	-	70.20	90.85	-	-	12.24
Total product value	221.20	2030.20	414.89	-	-	221.10
Other crop income	-	-	-	-	-	-
Gross return per acre	221.20	2030.20	414.89	-	-	221.10
Direct Expenses						
Seed and plants	-	-	-	47.18	-	5.01
Fertilizer	-	-	-	39.13	-	4.16
Crop chemicals	-	-	-	82.13	-	8.73
Non-chemical crop protect	-	-	-	-	4.38	2.80
Custom hire	-	-	-	76.75	-	8.16
Hired labor	0.56	0.56	0.56	0.56	0.56	0.56
Consultants	1.99	1.99	1.99	1.99	1.99	1.99
Miscellaneous	1.08	1.08	1.08	1.08	1.08	1.08
Fuel & oil	3.92	3.92	3.92	3.92	3.92	3.92
Repairs	4.47	4.47	4.47	4.47	4.47	4.47
Total direct expenses	12.01	12.01	12.01	257.21	16.40	40.87
Return over direct expenses	209.19	2018.19	402.88	-257.21	-16.40	180.23
Overhead Expenses						
Hired labor	0.25	0.25	0.25	0.25	0.25	0.25
Real estate taxes	3.87	3.87	3.87	3.87	3.87	3.87
Farm insurance	2.92	2.92	2.92	2.92	2.92	2.92
Dues & professional fees	2.44	2.44	2.44	2.44	2.44	2.44
Interest on lng term debt	14.50	14.50	14.50	14.50	14.50	14.50
Machinery depreciation	11.26	11.26	11.26	11.26	11.26	11.26
Building depreciation	2.23	2.23	2.23	2.23	2.23	2.23
Total overhead expenses	37.48	37.48	37.48	37.48	37.48	37.48
Total dir & ovhd expenses	49.49	49.49	49.49	294.68	53.88	78.35
Net return per acre	171.71	1980.71	365.40	-294.68	-53.88	142.75
Government payments	-	-	-	-	-	-
Net return with govt pmnts	171.71	1980.71	365.40	-294.68	-53.88	142.75
Labor & management charge	0.57	0.57	0.57	0.57	0.57	0.57
Net return over lbr & mgt	171.14	1980.14	364.83	-295.26	-54.45	142.18
Cost of Production Per Unit						
Total direct expenses	0.43	0.150	0.66	n/a	n/a	3.78
Total dir & ovhd expenses	1.77	0.62	2.71	n/a	n/a	7.24
Less govt & other income	1.77	-0.26	-2.27	n/a	n/a	6.11
With labor & management	1.79	-0.25	-2.23	n/a	n/a	6.16
Net value per unit	7.90	24.50	17.75	n/a	n/a	19.31
Machinery cost per acre	19.65	19.65	19.65	96.40	19.65	27.80
Est. labor hours per acre	1.02	1.02	1.02	1.02	1.02	1.02

Contributions to Overhead Expenses

Enterprise	Units	Contribution Per Unit	Total Contribution
Timber	1,223 Acres	180.23	220,423
Total contributions			220,423
Overhead expenses			
Hired labor			310
Real estate taxes			4,738
Farm insurance			3,567
Dues & professional fees			2,987
Interest on lng term debt			17,730
Machinery depreciation			13,771
Building depreciation			2,733
Total overhead expense			45,835
Total return over overhead expe			174,588

Nonfarm Summary

Personal Income	Amount
Personal wages & salary	34,560
Personal business income	-
Personal rental income	-
Personal interest income	-
Personal cash dividends	-
Tax refunds	-
Other personal income	-
Total personal income	34,560

Family Living Expenses

Number of family members	3
Food and meals expense	6,389
Medical care	3,998
Health insurance	12,897
Cash donations	3,450
Household supplies	4,956
Clothing	2,678
Personal care	2,467
Child / Dependent care	667
Alimony and child support	134
Gifts	2,337
Education	1,423
Recreation	4,225
Utilities (household share)	2,977
Personal vehicle operating expenses	3,414
Household real estate taxes	758
Dwelling rent	172
Household repairs	1,692
Personal interest	1,678
Disability / Long term care insurance	499
Life insurance payments	4,013
Personal property insurance	728
Miscellaneous	5,408
Total cash family living expense	66,960
Family living from the farm	-
Total family living	66,960
Furnishings and appliances	-
Personal vehicles	4,253
Personal business investment	-
Other intermediate assets	1,939
Personal real estate	2,707
Other long term assets	-
Personal savings and investments	-
Income and social security tax	17,435
Total personal expenditures	93,294

Comparative Balance Sheets (COST)

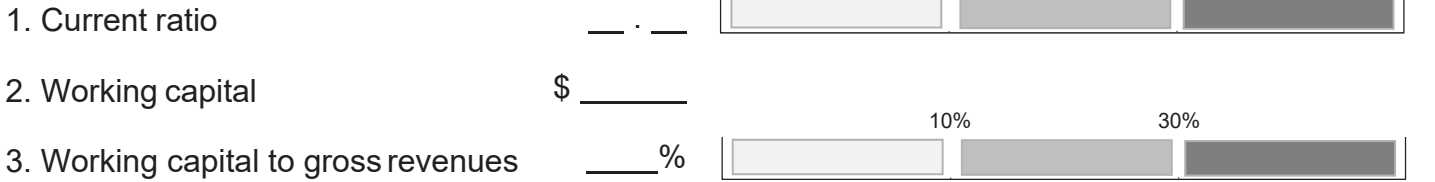
	2020	2020
	<i>Beginning</i>	<i>Ending</i>
Current Assets		
Cash and checking	15,689	19,786
Prepaid exp. & supplies	1,456	-
Accounts receivable	786	1,234
Other current assets	2,345	2,567
Total Current Assets	20,276	23,587
Intermediate Assets		
Machinery and equipment	82,840	74,556
Titled vehicles	36,579	31,092
Total Intermediate Assets	119,419	105,648
Long Term Assets		
Land	979,100	1,084,300
Buildings and improvements	27,328	24,595
Other long term assets	519,150	483,900
Total Long Term Assets	1,525,578	1,592,795
Total Farm Assets	1,665,273	1,722,030
Total Personal Assets	97,838	156,338
Total All Assets	1,763,111	1,878,368
Current Liabilities		
Accrued interest	7,026	6,588
Accts pay & accr exp	544	544
Principal due on term loans	15,172	16,510
Total Current Liabilities	22,742	23,642
Total Intermediate Loans	0	0
Total Long Term Loans	297,787	274,146
Total Farm Liabilities	320,529	297,788
Total Personal Liabilities	500	0
Total All Liabilities	321,029	297,788
Equity		
Retained earnings	1,442,082	1,580,580
Retained earnings chg		138,499

Comparative Balance Sheets (market)

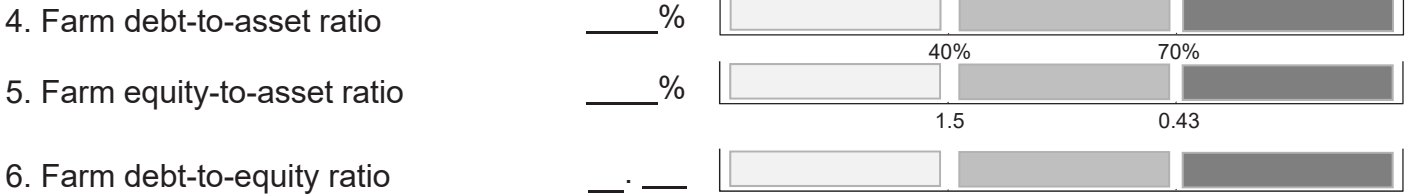
	2020	2020
	<i>Beginning</i>	<i>Ending</i>
Current Assets		
Cash and checking	15,689	19,786
Prepaid exp. & supplies	1,456	-
Accounts receivable	786	1,234
Other current assets	2,345	2,567
Total Current Assets	20,276	23,587
Intermediate Assets		
Machinery and equipment	89,770	85,282
Titled vehicles	40,110	38,105
Total Intermediate Assets	129,880	123,386
Long Term Assets		
Land	1,422,550	1,570,427
Buildings and improvements	28,500	25,650
Other long term assets	1,169,978	948,780
Total Long Term Assets	2,621,028	2,544,857
Total Farm Assets	2,771,184	2,691,830
Total Personal Assets	97,364	155,864
Total All Assets	2,868,548	2,847,694
Current Liabilities		
Accrued interest	7,026	6,588
Accts pay & accr exp	544	544
Principal due on term loans	15,172	16,510
Total Current Liabilities	22,742	23,642
Total Intermediate Loans	0	0
Total Long Term Loans	297,787	274,146
Total Farm Liabilities	320,529	297,788
Total Personal Liabilities	500	0
Deferred liabilities	165,884	145,468
Total All Liabilities	486,914	443,255
Equity		
Retained earnings	1,442,082	1,580,580
Market valuation equity	939,553	823,858
Net worth	2,381,634	2,404,438
Net worth change		22,804

Farm Finance Scorecard

Liquidity



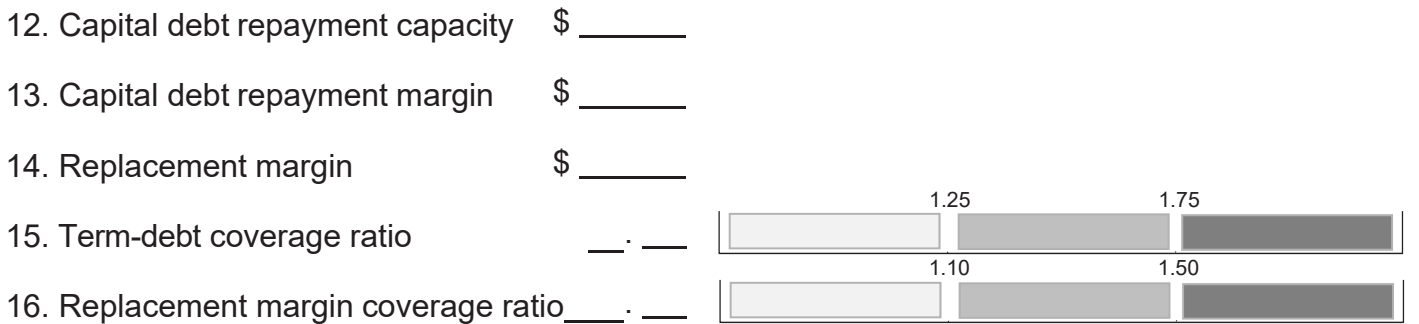
Solvency (market)



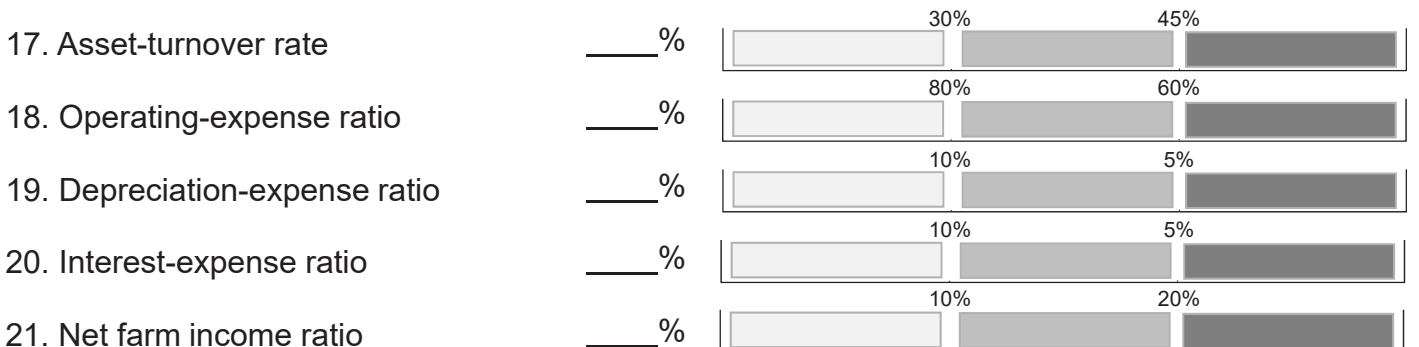
Profitability (cost)



Repayment capacity (accrual)



Financial efficiency



Scan Sheet 1, Exam A - Financial Statements

On Scan Sheet 1, Exam A, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

1. The purpose of the beginning balance sheet for Banyun Timber, recorded on 1/1/2020, is to show
 - A. if the business made a profit during the previous year.
 - B. the value of assets, liabilities and owner equity.**
 - C. the change in owner equity for a given period.
 - D. the change in cash balances.
 - E. All of the above
2. Cash on hand on a business balance sheet would most closely correspond to which of the following?
 - A. The balance in the farm checking and savings account.**
 - B. The balance in the farm checking and savings account plus other current assets.
 - C. The cash balance in the farm hedging account.
 - D. The value of stored grain inventory plus the value of market livestock.

Using the Banyun Timber balance sheets on pages R3 and R4 in the Resource Information, answer the following questions.

3. The beginning and ending balance sheets reveal the principal and interest due in 12 months on term debt. At the beginning of the year, the balance sheet shows \$_____ of principal was due. At the end of the year \$_____ of principal was due.
 - A. 10,925; 1831
 - B. 11,287; 13,632**
 - C. 10,290; 12,560
 - D. 158,243; 286,885

Answer: (Beginning Balance Sheet – 11,287 = 2488, 3510, 5289) (Ending Balance Sheet – 13632 = 2606+3712+5552+1762) or listed in current liabilities

4. The debt to asset ratio is a measure of the solvency of a farm business. Which of the following ratio(s) indicates the business is insolvent?
 - A. 15.1%
 - B. 35%
 - C. 90%
 - D. 106%**

Answer: A business is solvent when the ratio is less than 1.00

Participant Number _____

State Abbreviation _____

5. Compared to the beginning balance sheet, the ending balance sheet for the Banyuns reveals the amount of working capital _____ from the beginning to the end of the year.
- A. increased**
 - B. decreased
 - C. stayed the same
 - D. is like the best dairy operations in the USA

Answer: -\$782 to \$2,955

6. Valuation equity plus retained earnings plus contributed (or paid in) capital is equal to
- A. total assets plus total liabilities.
 - B. total assets minus total liabilities.**
 - C. net farm income from operations minus cash withdrawals from the business.
 - D. total assets plus total liabilities minus equity.
7. The Farm Finance Scorecard on Page R23 in the Resource Information shows the relative strength of the working capital to gross revenues measure for the Banyun operation at the end of 2020 is
- A. vulnerable.**
 - B. moderate.
 - C. strong.
 - D. None of the above

Answer: Less than 10% which is the upper limit of vulnerable

Using the 2020 Market Comparative Balance Sheets on Page R15 in the Resource Information, answer questions 8 and 9.

8. A review of the 2020 Market Comparative Balance Sheets, found on Page R15, reveals the asset with the greatest increase in value was _____ and the liability with the greatest increase was _____ (excluding "Total Farm Assets" & "Total Farm Liabilities" lines).
- A. Other Long Term Assets; Total Intermediate Loans
 - B. Other Long Term Assets; Total Long Term Loan
 - C. Land; Total Long Term Loans**
 - D. Retained Earnings; Total Long Term Assets

Answer: Land: \$874,000 to \$1,159,600 – Total Long Term Loans: \$158,243 to 286,885

Participant Number _____

State Abbreviation _____

9. The change in retained earnings (Cost balance sheet) and net worth change (Market balance sheet) for timber producers that comprises the area average, on Page R22, was _____ than experienced by the Banyuns.
- A. equal
 - B. higher
 - C. lower**
 - D. non-existent since their larger operations were so different in comparative size.

Answer: Average: RE = \$138,499 NW \$22,804; Banyun: \$183,320 NW = \$41,809

10. An examination of the 2020 Monthly Cash Flow Plan Executive Summary on Page R5 in the Resource Information, reveals an estimated earned net worth change of \$ _____ and an ending working capital of \$ _____?
- A. 1,741,841; 18,895
 - B. 1,741,841; 25.1
 - C. 1,721,693; 19,895
 - D. 20,148; 18,895**

Answer: NWC = \$20,148; Working Capital = \$18,895

11. The Banyuns purchased 240 acres of additional timber land in 2020. They eventually initiated a loan for \$142,229 at 4.75% interest with a local lender. However, when visiting with their lender, they entertained the idea of paying interest only for 9 months (270 days) before they started their principal payments. Calculate the daily interest (use 365 days/year). What would be the amount of interest they would be required to pay for 9 months?
- A. \$4,997.32**
 - B. \$6,755.88
 - C. \$18.51
 - D. \$105,210.49
12. The financial statement that explains the changes in net worth is the
- A. balance sheet.
 - B. income statement.
 - C. statement of cash flows.
 - D. statement of owner equity.**
13. Which of the following financial statements explains the change in cash balance for an accounting period?
- A. Balance sheet
 - B. Income Statement
 - C. Statement of Cash Flows**
 - D. Statement of Owner Equity

14. How is the net farm income reported on the 2020 Income Statement calculated?
- A. Gross Cash Income – Total Cash Expense
 - B. Gross Cash Income – Total Cash Expense + Total inventory change + Depreciation
 - C. Gross Cash Income – Total Cash Expense ± Total Inventory Change ± Depreciation**
 - D. Gross Cash Income – Total Cash Expense – Depreciation

Use the following scenario for calculations and answering questions 15-17. For the year of 2020, an area timber grower, Gregory and his spouse Tes, had timber product revenues of \$271,560 and cash expenses of \$215,955. Inventory values for the operation were \$13,482 lower at the end of the year than at the beginning. The total depreciation charge for the year was \$14,659. There are no capital item sales.

15. Calculate their net cash farm income.
- A. \$145,368
 - B. \$55,605**
 - C. \$43,123
 - D. \$27,464
16. Calculate their Net Operating Profit
- A. \$145,368
 - B. \$55,605
 - C. \$43,123**
 - D. \$27,464
17. Calculate the Net Farm Income.
- A. \$145,368
 - B. \$55,605
 - C. \$43,123
 - D. \$27,464**
18. Net farm income is used to pay for principal payment, social security and income taxes, family living and health care, and the crop input expenses for planting trees.
- A. True
 - B. False**

Answer: False. The crop input expenses are charged before calculating net farm income. Net farm income is used for making principal payments, social security and income taxes, family living and health care expenses, retirement accounts, and future capital investments.

19. Accrual adjustments are made to cash income in an income statement to ensure
- A. a more accurate explanation of the change in owner equity.
 - B. a better match of cash receipts and expenses within the statement of cash flows.
 - C. a better match of production with the expenses associated with the timing of production.**
 - D. a better match of revenue and expenses reported to the Internal Revenue Service.
20. The amount of net farm income that has accumulated in the Banyun business since it began is
- A. total net farm income.
 - B. retained earnings.**
 - C. one source of owner liabilities.
 - D. A and B
21. In order for the amount of retained earnings of the Banyun Timber business to increase,
- A. the cash balance on the ending balance sheet must be larger than the cash balance on the beginning balance sheet.
 - B. the increase in asset value needs to be more than the net farm operating loss.
 - C. asset values on the ending balance sheet must be larger than asset values on the beginning balance sheet.
 - D. net farm income must be larger than money withdrawn from the business.**
22. Net farm income for the Banyun Timber business represents a return to all the following except
- A. personal and non-business assets.**
 - B. unpaid operator and family labor.
 - C. owner's investment in the business.
 - D. equity capital.
23. Located on Page R23, the "Farm Finance Scorecard" is used to determine the strength of the financial **efficiency** measures of a business. What are the ratings for the Banyun business operating expense ratio, depreciation expenses ratio, interest expense ratio and net farm income ratio?
- A. Vulnerable
 - B. Moderate
 - C. Strong**
 - D. Not available

Answers: See data on the Banyun's 2020 Financial Analysis Executive Summary and Related Reports.

24. Relating to question 23, how do the financial **efficiency** measures of the Bunyan operation compare to the “Area Average Data”, found on Page R17? Their scores are somewhat
- A. **higher.**
 - B. lower.
 - C. the same.
 - D. unavailable.

Answer: The comparative data from the data information reveal all metrics are higher for the Banyun Timber operation.

25. Compared to the **Market Profitability** measures for the Area Average, the corresponding value and scores for Banyun Timber for net farm income from operations, rate of return on assets, rate of return on equity, and operating margin are
- A. higher.
 - B. **lower.**
 - C. the same.
 - D. unavailable.

Answer: The comparative data from the data information reveal all metrics are lower for the Banyun Timber operation.

26. Personal income for Banyun Timber and the area average are found on Pages R14 and R21 and the term debt coverage ratio is found on Pages R5 and R9 in the Resource Information. What would be the effect upon the term debt coverage ratio value for Banyun Timber if their personal income was the same as the area average?
- A. Personal income does not impact this ratio.
 - B. It would be the same.
 - C. It would be more than 10.20.
 - D. **It would be less than 10.20.**

Answer: When calculated, the ratio drops to 5.88

27. As you view Banyun Timber’s Statement of Owner’s Equity, found on Page R11 in the Resource Information, what would be the impact if the off-farm income was \$60,550 instead of \$121,100.
- A. Ending net worth would be \$1,706,718.
 - B. **Ending net worth would be \$1,585,618.**
 - C. The value of the total change in net worth would be \$18,741.
 - D. The value of the total change in net worth would be \$102,259.

Answer

Beg Net Worth		1,604,359
Net farm income	+	149,402
Personal Income	+	60,550
Family Living Expense	-	63,598
Income Taxes Accrued	-	24,543
Change in personal Assets	+	959
Change in nonfarm accounts payable	+	0
Total change in retained earnings	=	122,770
Change in market value of capital assets	+	-166,314
Change in deferred liabilities	-	-24,803
Total change in market valuation	=	-141,511
Total Change in Net Worth		-18,741
Ending Net worth		1,585,618

28. As you view Banyun Timber's Statement of Cash Flows, found on Page R11 in the Resource Information, what would be the ending cash balance (farm and personal) if they had not purchased \$40,000 worth of personal assets.

- A. \$29,101
- B. \$69,101**
- C. \$121,100
- D. \$259,798

Answer: Original ending cash balance + \$40,000 = \$69,101

29. Which of the following is a source of farm revenue?

- A. Principal payments during the accounting period.
- B. Interest payments during the accounting period.
- C. Sale of timber produced during the accounting period.**
- D. Cash received from a new noncurrent loan to purchase a new tractor.

30. When using cash accounting records, a business will recognize

- A. income and expense transactions at the time of actual cash transactions.**
- B. income and expense transactions regardless of when they are incurred.
- C. income when it is produced.
- D. expenses when the item is used in the production process.

Scan Sheet 1, Exam B - Budgeting

On Scan Sheet 1, Exam B, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

1. If you are considering a change in the farm business that affects only a few items in the total farm budget, this change could most appropriately be evaluated using
 - A. a partial budget.**
 - B. an enterprise budget.
 - C. a cash flow budget.
 - D. a total farm budget.

2. A whole farm schedule of expected returns and expenses is a
 - A. balance sheet.
 - B. partial budget.
 - C. budget.**
 - D. depreciation schedule.

3. For a livestock budget to be meaningful, what value should be placed on raised crops fed?
 - A. The costs to produce these crops
 - B. Local market value plus 10%
 - C. Reported state average sale price
 - D. Local market value**

4. Budgets are used in planning to evaluate the impact of future actions. To improve the accuracy of a budget, the operator may use
 - A. historical data.
 - B. forward contract pricing.
 - C. more than one source for estimated data.
 - D. All of the above**

5. When determining the effect of growing more acres of a crop, the cost most likely to change would be
 - A. fixed costs per acre.**
 - B. operating costs per acre.
 - C. rent per acre.
 - D. crop insurance per acre.

6. When an increase in the level of production of one enterprise causes a reduction in the level of production of another enterprise, these two enterprises are said to be
 - A. independent.
 - B. competitive.**
 - C. complimentary.
 - D. supplementary.

7. A cash flow projection is a form of budgeting that is used to
- A. determine living expenses.
 - B. determine year-end asset values.
 - C. determine operating credit needs.**
 - D. calculate total farm equity.
8. An enterprise budget is
- A. a physical and financial plan for the entire farm business for a specified period of time.
 - B. a statement of projected costs and returns associated with one production process, usually for one production cycle.**
 - C. a record of past production performance, usually for one production cycle.
 - D. the tool used in analyzing only changes in the farm operation and the potential change in net income.
9. Budgeting is not used to
- A. determine the useful life of assets.**
 - B. estimate the amount of credit needed.
 - C. allow for experimentation with possible outcomes before resources are committed.
 - D. All of the above
10. The cost of using a resource based on what it could have earned in the next best alternative is
- A. always a variable cost.
 - B. always a fixed cost.
 - C. an alternative cost.
 - D. an opportunity cost.**
11. Which of the following would be considered a fixed cost?
- A. Hired seasonal labor
 - B. Depreciation on machinery**
 - C. Crop production inputs
 - D. Feed purchases

Answer questions 12 - 14 using the Monthly Cash Flow information found on Page R5 and R6 in the Resource Information.

12. What is the projected Operating Profit Margin in 2020? *(Corrected to 2021 during exam)*
- A. -2.1%**
 - B. 6.3%
 - C. 3.9%
 - D. 16.1%

Participant Number _____

State Abbreviation _____

13. What is the expected income from timber sales in 2021?

- A. \$14,080
- B. \$207,470
- C. \$68,800**
- D. \$27,360

14. What is the projected total Repairs expense for 2021?

- A. \$292
- B. \$500
- C. \$2,300
- D. \$3,500**

Answer the following 2 questions using the Banyun Timber and area average Executive Summary, found on Page R9 and R17 in the Resource Information.

15. How much lower is the Banyun's Interest Expense Ratio compared to the Area Average in 2020?

- A. 1.4 points
- B. 1.8 points**
- C. 2.2 points
- D. 1.6 points

7.2% - 5.4%

16. How much lower would Banyun's Total expenses per acre be if they were equal to the Area Average in 2020? Round to the nearest cent.

- A. \$102.21
- B. \$22.09
- C. \$14.35**
- D. \$5,176.00

Banyun \$101,919 / 1,000 Acres = \$101.92 Area Average \$107,095 / 1,223 Acres = \$87.57 \$101.92 - \$87.57

Answer the following 2 questions using the Banyun Timber Planting, Production, and Harvest Record found on Page R16 in the Resource Information.

17. How much more total income would Banyun receive from Pulpwood in 2021 if production per acre were to increase by 1 ton?

- A. \$1,280**
- B. \$15,360
- C. \$88
- D. \$2,880

12 Tons X \$8 X 160 Acres = \$15,360 - \$14,080 = \$1,280

Participant Number _____

State Abbreviation _____

18. What is the expected Average Production Per Acre in tons in 2023?

- A. 8 tons
- B. 30 tons**
- C. 12 tons
- D. 120 tons

Scan Sheet 1, Exam C – Cash Flow

On Scan Sheet 1, Exam C, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

Using the Banyun Timber Monthly Cash Flow Executive Summary on Pages R5 of the Resource Information, answer the following questions.

1. What was the Net Cash Flow projected for Banyun Timber?
 - A. -\$9,852
 - B. \$14,006
 - C. \$16,460**
 - D. \$38,805
2. What is the projected Net Farm Income for Banyun Timber?
 - A. -\$9,852**
 - B. \$14,006
 - C. \$16,460
 - D. \$38,805
3. One of the Banyun's business goals was to improve their Debt to Asset Ratio by 1% per year. Is their ratio projected to improve by 1%?
 - A. Yes**
 - B. No
4. If there was a 10% increase in projected operating expenses, would the Term Debt Coverage Ratio be better or worse than the projected ratio listed on this page?
 - A. Better
 - B. Worse**

Using the Banyun Timber Cash Flow Plan on Pages R6 and R7 of the Resource Information, answer the following questions. (Round calculations to xx.x)

5. What month is projected to have the highest total inflow?
 - A. March
 - B. August
 - C. September**
 - D. October
6. Timber sales represent over 35% percent of the projected total inflow for the year.
 - A. True
 - B. False**

$$\$68,800 / \$207,470 = 33.2\%$$

7. What month has the highest total outflow?
- A. January
 - B. March**
 - C. April
 - D. June
8. Income Taxes are projected to be the single largest monthly outflow.
- A. True**
 - B. False
9. Crop inputs (seed, fertilizer, chemicals, and non-chemical weed control) represent 23% of total operating outflow.
- A. True
 - B. False**
10. Over \$80,000 is projected to be required to cover family living needs and income tax payments combined.
- A. True
 - B. False** **Exactly \$80,000 is projected**
11. Which month is expected to have the highest total loan payment?
- A. February
 - B. August
 - C. October
 - D. November**
12. Which month is the annual operating loan projected to be paid off?
- A. March
 - B. April
 - C. June**
 - D. December
13. What are the total dollars needed for annual operating interest and principal payments?
- A. \$26,371
 - B. \$14,006
 - C. \$14,184**
 - D. \$28,190

14. What is the projected ending cash balance for Banyun Timber?

- A. \$23,871
- B. \$37,342
- C. \$38,805**
- D. \$46,168

15. Is the projected cash flow positive or negative?

- A. Positive**
- B. Negative

One value of cash flow planning is the fact that a projected balance sheet is available for the producer and lender to review. The projected balance sheet is based on the balance sheet at the beginning of 2021 and adjusted by the numbers in the cash flow plan. Use the Banyun Timber Balance Sheet and Financial Trends projection on Page R8 in the Resource Information to answer the following questions.

16. Cash and Checking is the single item asset, not a total, on the Balance Sheet that is projected to increase the most at year end.

- A. True**
- B. False

17. Which single item liability, not a total, on the Balance Sheet is projected to reduce the most at year end?

- A. Accrued Interest
- B. Jones Land
- C. Matthews Land**
- D. FCS-Adjoining Land

18. What is the projected asset turnover rate for 2021?

- A. -2.1%
- B. 3.9%**
- C. 6.3%
- D. 13.5%

19. There are some key liquidity and repayment measurements listed for the projected year. Compare them to the current year actuals. Which of the following is a true statement?

- A. The Ending Current Ratio is projected to be dangerously high.
- B. Both Liquidity and Repayment measures are projected to improve.
- C. Liquidity measures are projected to weaken, but Repayment measures will improve.
- D. The Term Debt Coverage ratio projects a dangerous trend.**
- E. Both Working Capital measures are projected to weaken.

Participant Number _____

State Abbreviation _____

20. What is the primary reason the income and social security tax payments are projected to be almost \$10,000 less?
- A. Total expenses are projected to be down.
 - B. Depreciation increased and gross income is projected to go down.
 - C. Net Farm income is projected to be down significantly.**
 - D. Personal income is projected to be down by 10%.
 - E. All of the above
21. Which of the following statements is not a true statement about Cash Flow Projections?
- A. They can be based on an annual or monthly projections.
 - B. They provide information that helps guide decisions in the upcoming year.
 - C. They are more important to a lender for loan purposes than to the farmer for planning.**
 - D. They include both known and unknown amounts of income and expense.

Scan Sheet 1, Exam D - Marketing

On Scan Sheet 1, Exam D, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

1. USDA may use _____ to collectively influence product supply, demand, and price as a marketing mechanism.
 - A. arbitrage
 - B. federal marketing orders**
 - C. crop insurance
 - D. None of the above

2. Country A's currency has weakened relative to County B's currency. As a result, agricultural goods produced in Country A are now _____ in retail markets in Country B.
 - A. more expensive
 - B. less expensive**
 - C. the same price as before
 - D. None of the above

3. COOL (Country of Origin Labeling) is a labeling law that requires retailers (e.g., grocery stores, supermarkets, club warehouse stores) to notify their customers with information regarding the source of certain foods.
 - A. True**
 - B. False

4. Complete the definition: "Organic" is a labeling term that indicates that the food or other agricultural product has been produced using _____.
 - A. no chemical processes
 - B. no chemical inputs
 - C. approved methods**
 - D. None of the above

5. Identify which of the following are true statements.
 - I. All agricultural products marketed using USDA's organic seal must first be certified by a USDA-certifying agent.
 - II. Organic agricultural products may not be subjected to radiation processes to be marketed with USDA's organic seal.
 - III. Products sold, labeled or represented as organic must have at least 95% certified organic content to be marketed with USDA's organic seal.
 - A. I and II
 - B. II and III
 - C. I and III
 - D. I, II and III**

6. Farmer Smith grows corn, wheat and soybeans. When he looks at his production costs for the year, and specifically his average total cost across his enterprise, he's examining the farm's _____. When he focuses on his cost advantage as he produces more of any 1 of his crops he is examining the farm's _____.
- A. economies of scale, margin
 - B. economies of scope, margin
 - C. economies of scale, economies of scope
 - D. economies of scope, economies of scale**
7. USDA uses a classified milk pricing formula for each of the 4 product categories based on end use. What product category is associated with a Class II milk price?
- A. Fluid/beverage milk
 - B. Soft/manufactured dairy products (e.g., yogurt, ice cream)**
 - C. Hard cheeses
 - D. Butter and dry products (e.g., non-fat dry milk)
8. A shift in the supply curve could be explained by what factors?
- A. An increase in input prices
 - B. New technology
 - C. Government policy
 - D. B and C
 - E. A, B and C**
9. What is the specified volume in a live cattle futures contract?
- A. 50,000 pounds
 - B. 40,000 pounds**
 - C. 30,000 pounds
 - D. 20,000 pounds
- Live cattle noted, not feeder cattle*
10. A price slide in beef cattle marketing is a pre-determined adjustment in sale price because of the possible discrepancies in the number of cattle sold at the time of sale versus the delivery date weight.
- A. True
 - B. False**
11. A rising cash price relative to the futures price is known as
- A. strengthening basis.**
 - B. weakening basis.
 - C. under basis.
 - D. basis risk.

12. Corn futures contract months include
- A. February, March, May, July, December.
 - B. March, May, June, September, December.
 - C. March, May, July, September, December.**
 - D. February, May, July, September, December.
13. A producer using the futures market to hedge the price of a commodity sold in the fall would take what action in May?
- A. Sell futures contracts expecting to buy them back when the commodity is sold.**
 - B. Sell futures contracts expecting to sell more contracts when the commodity is sold.
 - C. Buy futures contracts expecting to buy more contracts when the commodity is sold.
 - D. Buy futures contracts expecting to sell those contracts when the commodity is sold.

Questions 14 - 26 reference the timber industry and/or the Banyun Timber case story.

14. Housing starts are a measure of the number of new housing units under construction. A change in housing starts is expected to be _____ correlated to market prices for lumber sold by the Banyuns.
- A. negatively
 - B. positively**
 - C. Neither positive nor negative
15. Timber prices are a function of
- A. timber quality.
 - B. end use.
 - C. quantities supplied and demanded.
 - D. A, B and C**
16. Which timber product would primarily be used for high-end furniture construction?
- A. Pulpwood
 - B. Chip-N-Saw
 - C. Veneer logs**
 - D. Poles and pilings
17. Which product category would the Banyuns harvest and market first in their harvest rotation?
- A. Pulpwood**
 - B. Chip-N-Saw
 - C. Sawtimber
 - D. Poles and pilings

Participant Number _____

State Abbreviation _____

18. Southern Pine is a primary species used for poles and pilings because of its availability, strength, and treatability.
- A. True**
 - B. False
19. Which supply-chain participant is the most likely buyer of veneer logs?
- A. Landowner
 - B. Forester/Timber consultant
 - C. Harvester
 - D. Saw mill**
20. Of the following timber products, which one has the most stringent density requirements?
- A. Pulpwood
 - B. Energy wood
 - C. Chip-N-Saw
 - D. Poles and pilings**
21. The Banyun family is considering adding a trucking line to their operation. This would be an example of _____ integration.
- A. horizontal
 - B. vertical**
 - C. expansion
 - D. None of the above
22. Log rules are
- A. transportation/hauling regulations.
 - B. contract specifications.
 - C. formulas for estimating timber volume.**
 - D. timber marketing orders.
23. One of the options the Banyuns is considering is selling recreational hunting permits on their forest land. Planting a mixed-stand on these grounds would _____ this possible goal.
- A. support**
 - B. discourage
 - C. neither help nor hurt
24. The Banyuns are comparing 2 harvest bids. One uses a delivered price while the other uses a stumpage price. The bid with the _____ is higher because _____.
- A. delivered price, a larger volume of trees is harvested
 - B. delivered price, the trucking rate is included**
 - C. stumpage price, a larger volume of trees is harvested
 - D. stumpage price, the trucking rate is included

The Banyuns are weighing whether to hire a forester to help with marketing. The last one they interviewed claims her marketing expertise results in a 2.5% premium for landowners. Assume a total stumpage value over rotation of \$2,740/acre or \$97.85/acre/year. Calculate the expected premium per acre.

25. The expected premium if the Banyuns choose this forester is
- A. \$195.70.
 - B. \$68.50.**
 - C. \$127.20.
 - D. \$685.00.

$$\mathbf{\$2,740 \times 0.025 = \$68.50/acre}$$

26. Total expected stumpage value over the rotation if they choose this forester.
- A. \$2,935.70
 - B. \$2,867.20
 - C. \$2,808.50**
 - D. \$3,425.00

$$\mathbf{\$2,740 + 68.50 = \$2,808.50/acre}$$

The Banyuns are also trying to decide whether they should sell their sawtimber on a lump sum or per unit basis as it is the highest valued timber type with the most potential for capturing a volume and/or quality premium. Answer using the information provided below. Assuming Banyun Timber can meet the minimum sawtimber volumes:

27. Which sale type yields a higher return for Banyun Timber, lump sum or per unit?

Lump sum - \$25.25/ton, minimum volume provided is 8 tons

Per unit - \$27.25/ton, minimum volume provided is 7.5 tons

- A. Lump sum
- B. Per unit**

$$\mathbf{\$25.25/ton \times 8 tons = \$202.00/ton}$$

$$\mathbf{\$27.25/ton \times 7.5 tons = \$204.38/ton}$$

Scan Sheet 1, Exam E – Income Tax

On Scan Sheet 1, Exam E, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

1. The main thing to keep in mind with regard to income tax management is to
 - A. minimize the tax obligation.
 - B. have zero taxes due.
 - C. maximize after tax income.**
 - D. defer income taxes to the future.

2. Effective tax planning
 - A. sets the basis for personal financial goals.
 - B. is most effective with up-to-date records.**
 - C. does not require long-range projections.
 - D. usually aligns with mid-year tax estimates.

3. The taxes that may be due when a person dies.
 - A. Timberland taxes
 - B. Estate taxes**
 - C. Property taxes
 - D. Real Estate taxes

4. If a student has an FFA project and generates income, it is generally reported as Other Income on one of the 1040 forms.
 - A. True**
 - B. False

Although not always perfectly clear, the determination of whether someone is self-employed, hired as an employee, or works as an independent contractor is fairly well defined. With the circumstances stated below, indicate whether the description indicates the characteristics of: *(Corrected during exam: A – D below are for information only, not a question)*

- A. A full-time employee
 - B. An independent contractor
 - C. A self-employed timber operation owner
 - D. A part-time employee

5. Advertises his/her services and expertise to the public.
 - A. A full-time employee
 - B. An independent contractor**
 - C. A self-employed timber operation owner
 - D. A part time employee

6. Is paid for work assigned and generally earns fringe benefits with the job.
- A. A full-time employee**
 - B. An independent contractor
 - C. A self-employed timber operation owner
 - D. A part-time employee
7. Provides work direction all others in the operation to support his/her activities.
- A. A full-time employee
 - B. An independent contractor
 - C. A self-employed timber operation owner**
 - D. A part-time employee
8. Would receive a form 1099 for work done if more than \$600 in value.
- A. A full-time employee
 - B. An independent contractor**
 - C. A self-employed timber operation owner
 - D. A part-time employee
9. Is informed when work is available, works as needed using employer's tools.
- A. A full time employee
 - B. An independent contractor
 - C. A self-employed timber operation owner
 - D. A part-time employee**
10. When a timber owner trades in a piece of equipment, it
- A. is treated as a sale.**
 - B. is added to the listed price of the new item.
 - C. remains on the depreciation schedule as basis value.
 - D. is considered a tax free adjustment.

For the questions 11 through 14, enter the number of years used to depreciate the listed assets. Choose zero (0) if the asset is not depreciable.

11. Used John Deere tractor
- A. 0 years
 - B. 3 years
 - C. 5 years
 - D. 7 years**
 - E. 15 years

12. Computer used in the business

- A. 0 years
- B. 3 years
- C. 5 years**
- D. 7 years
- E. 15 years

13. Timber land

- A. 0 years**
- B. 3 years
- C. 5 years
- D. 7 years
- E. 15 years

14. Logging equipment

- A. 0 years
- B. 3 years
- C. 5 years**
- D. 7 years
- E. 15 years

Taxes are complicated and numerous tax forms are used when filing a tax return with the IRS. Filing a tax return on timber adds another dimension to this process. Match the 2020 business items 15 through 19 with the correct corresponding tax form.

15. Sale of Sawtimber and Pulpwood

- A. Schedule F
- B. Schedule T
- C. Form 4797**
- D. Form 4562

16. Deductions detailed for depreciation and amortization

- A. Schedule F
- B. Schedule T
- C. Form 4797
- D. Form 4562**

17. Interest received from the bank

- A. Schedule B**
- B. Schedule C
- C. Schedule D
- D. Schedule E

18. Capital Gains reported for Timber Sales
- A. Schedule B
 - B. Schedule C
 - C. Schedule D**
 - D. Schedule E
19. Income from leasing timber land for recreational use
- A. Schedule F**
 - B. Schedule T
 - C. Form 4797
 - D. Form 4562
20. The Banyun's Timber Sales are reported as capital gains income. One reason for that is the fact that they are owners and are raising timber with the intent to sell.
- A. True**
 - B. False
21. Timber Sales is considered a farm income.
- A. True**
 - B. False
22. Timber producers are not required to enter sales on Schedule T.
- A. True**
 - B. False
23. The Banyuns purchased a different tractor in 2015 and decided to depreciate the asset. Another option would have been asset depletion when using section 179 in their tax reporting.
- A. True
 - B. False**
- Paul and Lucy had considered the purchase of an additional tractor in 2019. This changed when the adjoining land came up for sale. They delayed the purchase the tractor until January 1, 2020. They are planning with the assumption that tax law will not change for an asset of this size. The purchase price was \$33,500. This was an outright purchase of a used tractor. The current new price of the same tractor is \$48,500. (Round answers up to the nearest whole number)
24. What will be the original basis of the tractor?
- A. \$15,000
 - B. \$33,500**
 - C. \$48,500
 - D. \$82,000

25. What is the class life or expected years to depreciate this tractor?
- A. 3 years
 - B. 5 years
 - C. 7 years**
 - D. 10 years
26. The tractor was considered “placed in service” on January 1 because that was the purchase date.
- A. True**
 - B. False
27. If they had purchased this tractor on Jan 1 and chose to depreciate the tractor using MACRS straight line method, what will the first year of depreciation be?
- A. \$1,675
 - B. \$2,393**
 - C. \$3,463
 - D. \$4,786
- \$2,393** ($\$33,500 * 7.143\%$)
or
\$2,393 ($\$33,500 / 7$) / 2
28. If they chose to use the section 179 option rather than depreciation and this is their only capital purchase, how much of the purchase price can they show as a deduction on their taxes?
- A. \$82,000
 - B. \$48,500
 - C. \$33,500**
 - D. \$15,000

The Banyuns sell their timber using a cutting contract and meet the criteria needed to treat the sale as a section 1231 transaction. The adjusted basis for each acre of the timber sold is \$450. The total sales per acre for the parcel of land where the timber was harvested is \$2,104. Using this information, answer the following questions.

29. What is the gain for the sale of the timber?
- A. \$2,104
 - B. \$1,654**
 - C. \$1,057
 - D. \$ 694
30. This sale is considered to be what type of income for taxes?
- A. Ordinary
 - B. Capital Gain**
 - C. Depreciable
 - D. Non-taxable

Scan Sheet 1, Exam F – Investment Analysis

On Scan Sheet 1, Exam F, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

Paul and Lucy are well equipped with their operation. However, from time to time they need to move logs (downed logs from storms, diseased logs, large limbs, etc). It would be more efficient if they could move these with heavy equipment rather than cutting the material into small pieces manageable by hand. They have looked into a skid steer for the job and determined if they added the right attachments, they could do all the 50 hp tractor work plus this lifting. They can get \$26,000 by trading in their 50 hp John Deere tractor for a slightly used 863 Bobcat Skid-Steer with tracks. The Bobcat has a price tag of \$50,000 and would carry a warranty that covers all labor and parts for 5 years. They believe they could sell their bush hog for \$1,800 and find a used, heavy duty brush cutter for \$4,500 for the skid-steer. The trade-in and proceeds from the private sale of current equipment would be used for their down payment and the couple plans to finance the remainder. The local credit union will give the Banyuns an equipment loan for 5% fixed rate for seven years. Fill in the blanks in the following table.

(5% fixed rate is noted as a distraction, actual rate was 3.3%)

EQUIPMENT	TRADE-IN/SALE VALUE	PURCHASE PRICE	BALANCE
Tractor/Skid-Steer	26,000	50,000	24,000
Cutter	1,800	3,800	2,000
Total Loan Amount			26,000

YEAR	ANNUAL PAYMENT	INTEREST PAYMENT	PRINCIPAL PAYMENT	BALANCE
0				26,000
1	4,220	858	3,362	22,638
2	4,220	747	3,473	19,165
3	4,220	_____	3,588	15,577
4	4,220	514	_____	_____
5	4,220	391	3,829	8,042
6	4,220	265	3,955	4,087
7	4,220	133	4,087	_____

1. What is the interest payment for year three?

- A. \$747
- B. \$632**
- C. \$514
- D. \$391

2. What is the principal payment for year four?
 - A. \$4,220
 - B. \$3,588
 - C. \$3,706**
 - D. \$3,829

3. What is the loan balance after the payment in year four?
 - A. \$11,871**
 - B. \$15,577
 - C. \$11,357
 - D. \$11,989

4. What is the loan balance at the end of year seven?
 - A. \$133
 - B. \$4,087
 - C. \$0**

5. What is the cumulative interest that will be paid on the loan?
 - A. \$29,540
 - B. \$26,000
 - C. \$4,087
 - D. \$3,540**

6. The annual interest payment will remain constant from year to year.
 - A. True
 - B. False**

7. The annual interest rate will not vary over the life of the loan.
 - A. True**
 - B. False

8. Which of the following will change if the price of the skid steer increases?
 - A. Interest rate
 - B. Term length of the loan
 - C. Payment amount**
 - D. None of the above

9. After considering what they can do with this skid steer and brush cutter, they believe they can save \$7,000 in expenses (\$2,000 in repairs and \$5,000 in custom hire work) per year. What would the payback period be to cover the cost of the investment? Round to the nearest whole number.
- A. 6 years
 - B. 7 years
 - C. 8 years**
 - D. 9 years

$$\text{\$53,800/\$7,000} = 8 \text{ years}$$

10. The ideas that a dollar today is worth more than a dollar tomorrow, that people are charged interest for funds they borrow, or that investors receive payments in return for depositing money into a CD are all examples of
- A. present value.
 - B. future value.
 - C. interest rates.
 - D. time value of money.**
11. If the Banyuns believe they can afford this annual payment, and are willing to, which of the following could result if an equipment dealer would make them a seven-year loan at 0% interest?
- A. The lower interest rate would help protect the Banyun's credit score.
 - B. They could reduce the amount they could spend on the skid steer and brush cutter equipment.
 - C. Their debt-asset ratio would be improved.
 - D. The Banyuns could take the savings from lower payments and invest them in other parts of the business.**
12. If the bank were offering a 3/1 variable rate loan (interest rate is fixed for the first three years and can move up as much as a half percentage point each subsequent year), that would drop the initial payment to \$4,173. What is the greatest risk of taking this deal versus the original terms offered?
- A. The interest rate increases beyond double the original rate.
 - B. The payments will increase beyond the original payment level.
 - C. The interest rate increases could make the overall cost of the loan greater than the cost associated with the original terms.**
13. The interest payments decrease with each year's payment because the interest rate declines as the principal declines.
- A. True
 - B. False**

14. If the Banyuns make the original deal, they would help themselves reach their goal of decreasing their debt-asset ratio.
- A. True
 - B. False**
15. If all else was kept the same, what would happen if the length of the loan was extended by three years (from seven to ten)?
- A. The amount of money borrowed would have to change.
 - B. The annual payment would be higher.
 - C. The annual payment would stay the same.
 - D. The annual payment would be lower.**
16. The allowed time for the term of a machinery loan is set by the asset class.
- A. True
 - B. False**
17. The Banyun's annual payment on this loan is comprised of the principal payment plus the interest payment.
- A. True**
 - B. False

Scan Sheet 1, Exam G – Risk Management

On Scan Sheet 1, Exam G, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

1. Which of the following is an example of financial risk that applies to the Banyun's timber operation?
 - A. A change in timber prices
 - B. A change in interest rates**
 - C. A change in housing demand
 - D. A and C but not B are examples of financial risk
 - E. A, B, and C are examples of financial risk

2. Which of the following is an example of legal risk?
 - A. A change in tariff rates and food export regulations**
 - B. A change in consumers' tastes and preferences
 - C. A change in interest rates
 - D. A and C but not B are examples of legal risk
 - E. A, B, and C are examples of legal risk

3. Which of the following best describes risk transfer?
 - A. Paying another party to assume a portion of a risk**
 - B. A methodology to reduce the severity of a risk
 - C. A methodology to reduce the frequency of a risk
 - D. Ceasing an activity to eliminate the possibility of incurring a loss
 - E. Setting aside funds to pay for any losses that may occur

4. _____ is an example of risk control.
 - A. An insurance policy
 - B. A fire suppression system
 - C. Following label directions when applying pesticides
 - D. B and C but not A**
 - E. None of the above

5. A wildfire is an example of _____ risk.
 - A. market
 - B. legal
 - C. financial
 - D. human
 - E. production**

6. Assume that the following current ratios are given for five farms. Based solely upon these ratios, which farm is at the greatest financial risk?
- A. 2.5
 - B. 1.3
 - C. 2.1
 - D. 1.9
 - E. 0.9**
7. Adopting an appropriate integrated pest management system mitigates _____ risk.
- A. market
 - B. legal
 - C. financial
 - D. human
 - E. production**
8. Which of the following is an example of market risk that applies to the Banyun's timber operation?
- A. A change in pine timber prices
 - B. A change in the number of paper mills near the farm
 - C. A switch from lumber to metal as a primary building material
 - D. A and C but not B are examples of market risk
 - E. A, B, and C are examples of market risk**
9. A short-term disability insurance policy is an appropriate treatment for a farm owner's _____ risk.
- A. market
 - B. legal
 - C. financial
 - D. human**
 - E. production
10. A farmer decides to use the futures market to hedge the price risk of timber production. What futures contract should the farmer use to hedge this risk?
- A. Crude oil
 - B. Lumber**
 - C. Corn
 - D. Steel
11. A farmer would use the futures market with the objective to
- A. transfer risk.**
 - B. increase risk.
 - C. participate in government farm programs.
 - D. obtain a loan.

12. When hedging, it is important that farmers close out both the cash and futures position
- A. prior to selling the crop.
 - B. simultaneously when selling the crop.**
 - C. keep the futures position open to protect against price risk.
 - D. at any time.
13. To hedge using commodity futures, a farmer must
- A. use a broker.
 - B. create a margin account.
 - C. Both A and B**
 - D. do nothing. A farmer can hedge over the internet without a broker or margin account.
14. Prescribed burning is a frequently used technique in forest management. While the practice is generally safe, sometimes fires become out of control. Which type of insurance would protect the Banyuns from the risk of lawsuits arising from a claim for damages caused by an out of control fire brought against the company?
- A. A Life Insurance Policy
 - B. A Health Insurance Policy
 - C. A Commercial Property Insurance Policy
 - D. A Commercial Liability Insurance Policy**
15. Pine production is reliant on the chemical control of herbaceous weeds in the early establishment of the pine tree stand. If pine producers choose to apply herbicides, they have determined that the _____ risk, associated with yield loss and potential seedling death, is greater than the _____ risk associated with the misapplication of herbicides.
- A. legal, market
 - B. market, human
 - C. production, legal**
 - D. human, production
16. Which of the following would be a part of an integrated plan to manage the human safety risks associated with a farming operation?
- A. Ensure that employees wear appropriate personal protective gear to prevent injuries.
 - B. Ensure that safe pesticide mixing and handling procedures are followed.
 - C. Have the appropriate insurance policies in place to pay for damages associated with work related injuries.
 - D. A and B
 - E. A, B, and C**

17. Revenue protection coverage insurance only protects against
- A. a decline in price or yield.**
 - B. a decline in price.
 - C. a decline in yield.
18. The yield protection in revenue protection insurance is based on
- A. the farm's actual production history of yields.**
 - B. the county's actual production history of yields.
 - C. the state's actual production history of yields.
 - D. whatever yield coverage the farmer wants to buy.
19. The price protection in revenue protection insurance is based on
- A. the futures market.**
 - B. the local cash market.
 - C. the U.S. Marketing-Year Average price.
 - D. a price determined by the USDA.
20. A farmer uses yield protection insurance to protect a corn crop. This type of insurance would protect against which of the following?
- A. Low prices
 - B. Low yields**
 - C. Low yields and low prices
 - D. Failure of grain buyer to make a payment upon delivery
21. The difference between the cash price and the futures price is called the
- A. strike price.
 - B. premium.
 - C. basis.**
 - D. spread.
22. Which of the following is not one of the steps in the risk management process?
- A. Identify
 - B. Retain**
 - C. Plan
 - D. Prioritize
 - E. All of these are steps in the risk management process.
23. Which of the following risks should be transferred?
- A. A high frequency and high severity risk
 - B. A low frequency and high severity risk**
 - C. A low frequency and low severity risk
 - D. A high frequency and low severity risk

Scan Sheet 1, Exam H - Farm Business Organization and Land Measurement

On Scan Sheet 1, Exam H, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 p

Part A - Farm Business Organization

1. If the Banyuns decided to join with other forestry producers to start a saw mill to add value to their forest products, which type of cooperative would they form?
 - A. Marketing
 - B. Credit
 - C. Purchasing
 - D. Processing**
 - E. Service

The Banyuns were the heirs of a multi-generational Southern Pine forestry operation. While the couple is not yet at retirement age, they are beginning to think about the future. The Banyuns are particularly concerned about continuing their parents' tradition of leaving future generations their family forestlands.

2. Which of the following business organizations would best suit the Banyuns' goal of leaving their forestland for future generations of their family?
 - A. A Partnership
 - B. A Sole Proprietorship
 - C. A Cooperative
 - D. A Business Trust**
 - E. None of these are appropriate
3. Which of the following is not a benefit of a corporate business structure?
 - A. Corporate income can be taxed at a lower rate than personal income.
 - B. Ownership is easily divided into shares.
 - C. A corporation does not dissolve with the death of an owner.
 - D. Can benefit estate planning.
 - E. All of the above are benefits of organizing as a corporation.**
4. The most common type of business organization for US farms and ranches is the _____.
 - A. Corporation
 - B. Partnership
 - C. Sole Proprietorship**
 - D. LLC
 - E. Cooperative

Participant Number _____

State Abbreviation _____

5. Choosing to organize a business as a(n) _____ provides entrepreneurs with the greatest potential to access equity capital.
- A. Corporation**
 - B. Partnership
 - C. Sole Proprietorship
 - D. LLC
6. Of the types of business organizations listed below, which would provide the least protection from legal liability to the owners?
- A. An LLC
 - B. An S Corporation
 - C. A C Corporation
 - D. A Sole Proprietorship**
7. Which of the following statements is not a best practice when selecting a business organization structure?
- A. Business owners should select the simplest business organization that still meets their needs and goals.
 - B. Partnership agreements should always be signed, written agreements that are reviewed with the help of an attorney or other competent professional.
 - C. The business structure that minimizes the owner's tax liability is always the best choice for business owners.**
 - D. Future plans and aspirations of the business owner should be taken into account when deciding the optimal business structure.
8. An owner of a C Corporation is also called a(n) _____.
- A. director
 - B. stockholder**
 - C. officer
 - D. member
 - E. trustor
9. An owner of an LLC is also called a(n) _____.
- A. director
 - B. stockholder
 - C. officer
 - D. member**
 - E. trustor

10. If a farm business owner wishes to organize her business as simply as possible with minimal filing requirements, but wishes to have some liability protections, which type of organization should she choose?
- A. A C Corporation
 - B. A Limited Partnership
 - C. A Sole Proprietorship
 - D. An LLC**
 - E. A Cooperative
11. According to the IRS code, owners of a C Corporation must be US citizens.
- A. True
 - B. False**
12. According to IRS rules, C Corporations may have more than 100 stockholders.
- A. True**
 - B. False
13. Cooperatives allow farmers and ranchers to gain market power by combining their resources.
- A. True**
 - B. False
14. Business trusts are a particularly useful form of business organization for accessing equity capital.
- A. True
 - B. False**

Part B - Land Measurement

15. How many acres are in a half section?
- A. 80
 - B. 160
 - C. 320**
 - D. 640
16. Generally, parcels of land that are irregular in shape are legally described by using
- A. rectangular survey.
 - B. metes and bounds.**
 - C. Either A or B

Participant Number _____

State Abbreviation _____

17. An acre equals _____ square feet.
- A. 23,040
 - B. 43,560**
 - C. 64,000
 - D. 12,346
18. How many sections are usually in a township?
- A. 12
 - B. 24
 - C. 36**
 - D. 48
19. Generally, parcels of land that are located in a city subdivision are legally described by using
- A. metes and bounds.
 - B. recorded plats.**
 - C. rectangular survey.
 - D. None of the above
20. Some properties in the U.S. do not have some form of legal land description.
- A. True
 - B. False**
21. The range refers to columns of townships running north and south (quadrangle).
- A. True**
 - B. False
22. When reading a legal land description, you read it by
- A. reading it from the smallest to the largest parcel.
 - B. locating the section in the township.
 - C. finding the location in the quarter.
 - D. All of the above**
23. Thomas Jefferson authorized a system of land measurements to define locations of properties in the western territory for the following main reasons.
- A. So that private ownership of property could be easily defined.
 - B. So that property could be exchanged to another owner more easily.
 - C. A checkerboard system was employed to create more reliable delineations.
 - D. All of the above**
 - E. None of the above

Use the chart below of section 9 to answer questions 24 and 25.

Section 9

A.			
		C.	
B.			D.

24. How many acres are in parcel C?
- 80 acres
 - 40 acres
 - 20 acres
 - 10 acres**
25. What is the legal description of parcel D?
- South 1/4 of the East 1/4 of Section 9.
 - Southeast 1/4 of the Southeast 1/4 of Section 9.**
 - Southeast 1/4 of the South 1/4 of Section 9.
 - East 1/4 of the South 1/4 of Section 9.
26. There are approximately _____ acres in a township.
- 23,040**
 - 22,050
 - 19,580
 - 64,000
27. A tier refers to the townships running east and west in six mile increments.
- True**
 - False

Scan Sheet 1, Exam I - Analyzing the Agricultural Business, Part 1

On Scan Sheet 1, Exam I, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

Use the Executive Summary on Page R9 in the Resource Information for the Banyun Timber and the Executive Summary for Average Data on Page R17 to answer questions 1 through 6.

1. The Banyun Timber's Net Farm Income for 2020 was \$149,402.
 - A. True**
 - B. False

2. The Banyun Timber operation consists of 1,000 acres.
 - A. True**
 - B. False

3. Banyun Timber had a higher net farm income than the Area Average and had fewer acres.
 - A. True**
 - B. False

4. The expense item that had the greatest impact on the difference in net farm income between Banyun Timber and the Area Average was
 - A. cash operating expense.
 - B. total operating expense.
 - C. depreciation.
 - D. interest paid.**

5. Compare the beginning and ending values of the Liquidity Measures listed. Which measure(s) were worse at the end of the year for Banyun Timber?
 - A. Current Ratio
 - B. Working Capital
 - C. Working Capital to Gross Revenues
 - D. All of those listed
 - E. None of those listed**

6. The Debt to Asset Ratio is a financial factor that represents
 - A. Total Debt minus Total Assets.
 - B. Total Debt divided by Total Assets - Equity.
 - C. Total Debt minus Current Debt divided by Total Assets.
 - D. Total Debt divided by Total Assets.**

An explanation of the factors listed in the Repayment Capacity section of the Financial Standards Measures, for Banyun Timber and the Area Average, is found on page R11 and R19 of the Resource Information. Those factors include: capital debt repayment capacity, capital debt repayment margin, replacement margin, term debt coverage ratio, and replacement coverage ratio. Use that information to answer the questions below.

7. The capital debt repayment capacity for Banyun Timber is \$184,315.

- A. True
- B. False**

\$204,355

8. Is their capital debt repayment capacity larger or smaller than the Area Average?

- A. Larger**
- B. Smaller

9. What is the primary reason for the Banyun capital debt repayment capacity being larger or smaller than the area average?

- A. Depreciation
- B. Personal Income**
- C. Income taxes accrued
- D. Interest on term debt

10. The term debt coverage ratio for the Area Average is 2.50.

- A. True
- B. False**

3.57

11. Based on the term debt coverage ratio, both the Area Average and Banyun Timber are able to pay off annual term debt.

- A. True**
- B. False

12. Which two items listed below are used to calculate the term debt coverage ratio?

- A. Capital debt repayment margin and scheduled term debt payments
- B. Capital debt repayment capacity and repayment margin
- C. Capital debt repayment capacity and scheduled term debt payments**
- D. Scheduled term debt payments and capital debt repayment margin

Participant Number _____

State Abbreviation _____

Use the Business Overview on Pages R1 and R2 and the Planting, Production and Harvest Record on Page R16 of the Resource Information to answer the following questions.

13. Using the Banyun's harvest plan, how many different types of harvest events will happen on one acre of timber after planting and including the year that sawtimber is cut (Final Harvest)?
- A. 3
 - B. 4
 - C. 5
 - D. 6

Using Parcel D, answer the following questions. Use historical and planned amounts.

14. What is the total production of timber per acre, in tons, from planting through final harvest?
- A. 46
 - B. 58
 - C. 127
 - D. **148**
- (28+18+12+81+9=148)
15. What is the total value per acre of all timber sold, from planting through final harvest?
- A. \$548
 - B. \$644
 - C. \$2,573
 - D. **\$2,741**
- (224+324+96+2,025+72=2,741)
16. What was the annual average value of protection per acre, from planting through final harvest?
- A. \$15.57
 - B. \$49.53
 - C. **\$97.89**
 - D. \$122.52
- (2,741 / 28 = 97.89)

Using Parcel C, answer the following questions. Calculate to the nearest hundredth (x.xx).

17. What was the production per acre of Pulpwood from all harvest points for this parcel?
- A. 29.00
 - B. 37.94
 - C. **50.94**
- (29+13+8.94=50.94)

Participant Number _____

State Abbreviation _____

18. What percent of the Pulpwood production was harvested in 2003, compared to the estimated total production at that growth stage? *(Corrected 2003 to 2004 during exam)*
- A. 14.0%
 - B. 48.3%** $((29 / 60) * 100 = 48.33)$
 - C. 50.0%
 - D. 61.5%
19. Over the life of an acre of timber, planting to final harvest, which product generally provides the most harvested tonnage off of that acre?
- A. Chip-n-Saw
 - B. Sawtimber**
 - C. Pulpwood
 - D. Chipwood

Scan Sheet 1, Exam J - Analyzing the Agricultural Business, Part 2

On Scan Sheet 1, Exam J, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

Compare Banyun Timber enterprise information on Page R12 with the Area Average timber enterprise information on Page R20 of the Resource Information. (Note: Production data for the Sawtimber and Chip-n-Saw enterprises includes a number for "Value of other products". The dollar amount listed is for Pulpwood that is harvested off the same acres when those products are harvested. It is common for parts of the trees not used for Sawtimber and Chip-n-Saw to be taken as Pulpwood.)

- What is the gross return per acre for Banyun's Sawtimber'89 enterprise?
 - \$0.00
 - \$2,030.20
 - \$2,104.02**
- How much more or less is the gross return of Banyun enterprise compared to the gross return of the Area Average Sawtimber?
 - \$73.82 more**
 - \$73.82 less ($2104.02 - 2030.20$) = + \$73.82
 - \$1,689.13 more
 - \$1,689.13 less

Assume the Banyuns received \$8.00 per ton of Pulpwood (value of other products) on the sawtimber land. Assume the average sawtimber enterprise other product price was \$7.80 per ton of Pulpwood, slightly less than the other Pulpwood sales price. Using the value of other products dollar amount and the tons of sawtimber produced for each, calculate the total tons of timber produced per acre for each enterprise.

- Total tons per acre for Banyun Timber
 - 81.30
 - 84.51 ($(\$71.52 / 8.00) = 8.94$) + 81.30 = 90.24
 - 90.24**
 - 152.82
- Total tons per acre for Area Average
 - 80.00
 - 89.00** ($(\$70.20 / 7.80) = 9.00$) + 80.00 = 89.00
 - 104.50
 - 150.20

Participant Number _____

State Abbreviation _____

For the following expense and return line items for Banyun Timber and the Area Average, identify which enterprise had the best or worst amount listed.

5. Highest net return per acre
 - A. Area Average – Sawtimber
 - B. Area Average – Chip-n-Saw
 - C. Area Average - Pulpwood
 - D. Banyun – Sawtimber'89**

6. Highest total direct and overhead expenses
 - A. Banyun Just Planted Adjoining Land
 - B. Banyun 1996 farm
 - C. Area Average – Timber to plant** (*Corrected "Timber Just Planted" during exam*)
 - D. Area Average – Timber no product

7. Lowest return over direct expenses
 - A. Area Average – Timber just planted
 - B. Banyun 1996 farm
 - C. Area Average – No product
 - D. Banyun Just Planted Adjoining Land**

Use the "Just Planted" enterprise for Banyun Timber (Page R13) and the Area Average (Page R20), to answer the following questions.

8. Which two Direct Expenses for Banyun Timber and the Area Average were the largest?
 - A. Fertilizer and Crop Chemicals
 - B. Crop Chemicals and Custom Hire**
 - C. Seeds, Plants and Fertilizer
 - D. Seeds, Plants and Custom Hire

9. Using value per unit of \$8.00 per ton for Pulpwood, how many tons of Pulpwood production are needed to cover direct and overhead expenses for the Area Average?
 - A. 32.22
 - B. 36.29
 - C. 36.84** (294.68 / 8 = 36.84)
 - D. 37.78

10. Would it require more or less tons of Pulpwood for Banyun Timber to cover the cost of direct and overhead expenses?
 - A. More
 - B. Less**

11. Based on your knowledge of the Banyun and the average Timber operation, and using the Resource Information, will the value of the first harvest of Pulpwood cover the direct and overhead expenses of planting the crop?

A. Yes
B. No

Timber production can be a profitable business over the long term if the parcels are managed effectively. A key practice of long-term production and effective management strategies is the spacing between trees in the initial planting. Paul and Lucy have used university guidelines and past practice to identify the optimal planting level for their timber land. Their goal is to have at least 450 trees per acre at the beginning of the second year after planting. The Banyuns plant a slightly higher population per acre because there is some loss in the first year after planting. They try to maintain an 8 foot spacing between rows on the initial plant. (Round answers to the nearest whole foot.)

12. Their target population at the time of the initial planting is 495 trees per acre. Knowing the spacing between rows, how far apart should the tree seedlings be planted in each row to attain 495 trees/acre?

A. 8
B. 11 $((43,560 / 495) / 8) = 11$ feet
C. 12
D. 88

13. During the first year, the Banyuns have averaged an 8% loss of the tree seedlings. What would be the number of trees remaining in the second year?

A. 381
B. 414 $(495 * .92) = 455.4$
C. 419
D. 455

14. For the tree seedlings that survived the first year, what is the average spacing between the tree seedlings in each row in the second year? Round to whole feet.

A. 9
B. 12 $((43,560 / 455) / 8) = 11.97$ feet
C. 14
D. 91

Scan Sheet 2, Exam A – Family Living

On Scan Sheet 2, Exam A, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

Review the story of Banyun Timber (Pages R1 and R2), the 2020 Family Living Expense Summary (Page R14), and the Area Average Household and Personal Living Expenses (Page R21), before answering the following questions. Round answers to whole numbers and percentages to tenths, xx.x%.

1. What is the largest expenditure for the Banyun family?
 - A. Income and social security taxes
 - B. Health insurance
 - C. Food and meals expense
 - D. Personal savings and investments**
2. What is the Total Personal Expenditure per person for the Area Average? Round answer to the nearest whole dollar.
 - A. \$22,320
 - B. \$31,098** $\$93,294 / 3 = \$31,098$ per person
 - C. \$66,960
 - D. \$93,294
3. Of the Total Family Living (not including Other Nonfarm Expenditures) what expense comprises the largest percentage of Total Family Living for the Banyuns?
 - A. Dwelling rent
 - B. Health insurance**
 - C. Food and meals expense
 - D. Household supplies
4. The Banyun family spends how much per person on recreation? Round answer to the nearest whole dollar.
 - A. \$969**
 - B. \$1,486
 - C. \$1,292
 - D. \$339
5. The Banyun family spends more per person than the Area Average for
 - A. health insurance.
 - B. household supplies.
 - C. food and meals expense.**
 - D. clothing.

6. Which expense listed below would be the easiest to reduce?
- A. Life insurance payments
 - B. Gifts**
 - C. Income taxes
 - D. Health insurance
7. The Area Average spends more than nine percent of Total Family Living on which expense category(ies)?
- A. Recreation
 - B. Health insurance
 - C. Food and meals expense
 - D. Both B and C**
8. What percent of Total Family Living is spent on health insurance by the Banyun family? Round answer to tenth of a percent (xx.x%)
- A. 5.4%
 - B. 11.0%
 - C. 22.6%** $(\$14,387 / \$63,598) \times 100 = 22.6\%$
 - D. 25.1%
9. What amount per person does the Area Average spend on gifts? Round to the nearest whole dollar.
- A. \$497
 - B. \$779** $\$2,337 / 3 = \779 per person
 - C. \$1,989
 - D. \$2,337
10. The Area Average spends at least seven percent of the Total Family Living on this expense category.
- A. Recreation
 - B. Cash donations
 - C. Household supplies**
 - D. Life insurance payments
11. Which expense item listed below would be the most difficult to reduce?
- A. Medical care**
 - B. Recreation
 - C. Clothing
 - D. Personal savings and investment

Participant Number _____

State Abbreviation _____

12. What percentage of Total Personal Expenditures does the Banyun family put toward personal savings and investments? Round answer to tenth of a percent (xx.x%)

A. 18.8%

B. 32.5%

C. 36.9%

D. 66.8%

$$(\$42,506/\$130,647) \times 100 = 32.5\%$$

Scan Sheet 2, Exam B – Economic Principles

On Scan Sheet 2, Exam B, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

1. The term Change in Y over Change in X (or $\Delta Y/\Delta X$) is
 - A. Total Physical Product.
 - B. Marginal Physical Product.**
 - C. Average Physical Product.
 - D. Marginal Cost.

2. The production function is the
 - A. economic relationship between firms and consumers.
 - B. production relationship between consumers and producers.
 - C. economic relationship between costs and prices.
 - D. physical relationship between inputs and output.**

3. If APP is greater than MPP, you know that
 - A. APP is decreasing.**
 - B. you are in stage 1 of the production function.
 - C. MPP is increasing.
 - D. APP is increasing.

4. The decision rule for moving from stage two to stage three of the production function is
 - A. Maximum APP.
 - B. MPP = 0.**
 - C. MPP = APP.
 - D. Maximum MPP.

5. The denominator of the marginal cost equation includes change in
 - A. total cost.
 - B. input levels.
 - C. variable cost.
 - D. output levels.**

6. MR is the addition to total
 - A. revenue from selling one more unit of output.**
 - B. output from using one more unit of input.
 - C. revenue from maximizing production.
 - D. costs from using one more unit of input.

7. To mathematically determine the least cost combination of two inputs, find where the
- A. marginal rate of substitution equals the average cost.
 - B. marginal cost equals the average cost.
 - C. marginal rate of substitution equals the price ratio.**
 - D. price ratio equals the marginal product.
8. The cost for annual mowing of roads is classified as a
- A. fixed cost.
 - B. variable cost.**
 - C. average cost.
 - D. marginal cost.
9. With a typical production process, if total fixed cost is spread over increasing output, average fixed cost will
- A. stay constant.
 - B. increase then decrease.
 - C. decrease then increase.
 - D. decrease.**
10. Assuming a typical production function, rational producers will produce in
- A. Stage 1.
 - B. Stage 2.**
 - C. Stage 3.
 - D. Stage 4.
11. If the operation has a fixed cost of \$50 per acre when output yields 100 tons per acre, what is the fixed cost per acre when output increases to 120 tons per acre?
- A. \$25 per acre
 - B. \$200 per acre
 - C. \$50 per acre**
 - D. \$100 per acre

Participant Number _____

State Abbreviation _____

Use this table to answer questions 12 – 15 (Red numbers were blank)

X	Y	APP	MPP
0	0	----	
1	8	8	8
2	20	10	12
3	36	12	16
4	44	11	8
5	45	9	1
6	42	7	-3

12. When variable input is 5, then the output is

- A. 36.
- B. 44.
- C. 45.**
- D. 42.

13. When Y is 44 then APP is

- A. 10.
- B. 11.**
- C. 12.
- D. 9.

14. Using input level of 2 results in APP of

- A. 10.**
- B. 11.
- C. 12.
- D. 9.

15. What is the MPP when moving from input level of 5 to 6?

- A. 8
- B. 1
- C. -3**
- D. -5