**Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**MCC Math 132 Business Math Final Exam April 29, 2024**

PLEASE READ: This exam is intended to be completed in 1/2 hour (30 minutes) but you will be allowed the full class time. This means all students are given extra time, regardless of whether you are on accommodations or not. ***Pay attention to point value on questions***!

**1. (40 pts) Please read but do not check any of the boxes.**

*For grading purposes only*. ***Professor will check the box*** for the appropriate number of the Excel Labs that have been submitted (as of end of the day Friday, May 3) in the second half of the course. In addition to the lab grade of 20 points per lab, here you earn an ***extra*** 10 points per lab just for submitting a valid attempt. It’s 10 points or none each.

* all four labs have been completed
* 3 out of 4 labs have been completed
* 2 out of 4 labs have been completed
* 1 out of 4 labs has been completed
* A table with numbers and a number of money

  Description automatically generated with medium confidencenone of the labs have been completed

**2. (4 pts)**

The first few rows of a loan payment schedule is shown. What type of loan is it?

**A.** Compound interest loan

**B.** Simple interest loan

**C.** Rule of 78 loan

**D.** It cannot be determined by the information shown.

A graph of a graph with a number of circles

Description automatically generated with medium confidenceANSWER: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**3. (4 pts)**

This graphic illustrates 12 months of interest payments for a certain type of loan. What type of loan is it?   
  
**A.** Compound interest loan

**B.** Simple interest loan

**C.** Rule of 78 loan

**D.** It cannot be determined by the information shown.

ANSWER: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

A screenshot of a spreadsheet

Description automatically generated**4. (4 pts)**

A fully amortized loan is one in which the borrower only pays interest on the remaining balance. The first few rows of each payment are shown here. What type of loan is this?

**A.** Compound interest loan

**B.** Simple interest loan

**C.** Rule of 78 loan

**D.** It cannot be determined by the information shown.

ANSWER: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**5. (4 pts)**

A table with numbers and a yellow line

Description automatically generatedDepreciation is the decrease or loss in value of an item due to age, wear, or market conditions.  
  
One company buys a new backhoe for . The company depreciates the backhoe over its useful life of years. Its salvage value at the end of years is .

The first few rows of the depreciation schedule are shown here. What depreciation method was used?

**A.** Straight-line method

**B.** Sum-of-digits method

**C.** Declining method

**D.** Double declining method

**E.** It cannot be determined by the information shown.

ANSWER: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**6. (4 pts)**

Of the depreciation methods discussed in class, which one or ones are designed specifically end the life cycle at ***exactly*** the salvage value? In other words, which of the methods uses the salvage value in the depreciation amount calculation?

**A.** Only the Straight-line method

**B.** Both the Straight-line and the Sum-of-Digits methods

**C.** Only the Declining and Double Declining Methods

**D.** All four of the methods

**A graph with a line and numbers

Description automatically generatedE.** None of the methods

ANSWER: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**7. (4 pts)**

A graph with a line graph

Description automatically generatedA graph with a line and numbers

Description automatically generatedWe discussed patterns of depreciation over time. The Book Value graphs under 3 depreciation methods are shown here. Identify the type of function that the data and equation represent.

Choose the type of function for each:

Sum-of-digits method: \_\_\_\_\_\_\_ linear \_\_\_\_\_\_\_\_ quadratic \_\_\_\_\_\_\_\_ exponential

Straight-line method: \_\_\_\_\_\_\_ linear \_\_\_\_\_\_\_\_ quadratic \_\_\_\_\_\_\_\_ exponential

Double declining method: \_\_\_\_\_\_\_ linear \_\_\_\_\_\_\_\_ quadratic \_\_\_\_\_\_\_\_ exponential

Every pattern shows a slope that is \_\_\_\_\_\_ positive \_\_\_\_\_\_ negative

**8. (4 pts)**

Which sentence best describes what the marginal cost of production is if the current production level is 15 units.

**A.** The marginal cost of production is the total cost of producing 15 units.

**B.** The marginal cost of production is the total cost of producing 16 units.

**C.** The marginal cost of production is the cost to increase production from 15 to 16 units.

**D.** The marginal cost of production is the amount of labor required to make 15 units.

ANSWER: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Cost and revenue, marginal cost, marginal revenue, and profit are shown for custom t-shirts (***quantities*** are measured in ***hundreds***). **Price** is in USD$.

A table with numbers and a few words

Description automatically generatedFor partial credit on questions 9 and 10, what is the maximum profit?

ANSWER \_\_\_\_\_\_\_\_\_\_\_\_\_

At what production level will profit be maximized?

ANSWER \_\_\_\_\_\_\_\_\_\_\_\_\_

**9. (4 pts)**

At what production level is profit maximized?

**A.** When total revenue equals total cost **B.** When marginal revenue equals marginal cost

**C.** When demand and supply are the same **D.** It cannot be determined by the information here.

ANSWER: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**10. (4 pts)**

What is the ***fixed cost*** of production? (Total cost = Fixed cost + Variable cost)

**A.** $11 **B.** $2 **C.** $20 **D.** cannot be determined

ANSWER: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Each of the following questions is graded on participation. You receive credit simply for taking the time to provide me with honest, constructive feedback. I promise not to share the results with anyone. I want to know how I can make sure future Business Math students are successful and end the class feeling like they learned something.

**1. (4 pts)**

Name one specific method or approach for this class that *worked better* for you than expected:

**2. (4 pts)**

Think about how you learn math. Was there a type of activity that was not done that may have worked for you?

**3. (4 pts)**

Think about how well you did in this class. Was it better than expected? As expected? or worse than expected? Name one factor that contributed to this result. What was done or not done that might have made the difference?

**4. (4 pts)**

How was the workload for this class? Was the workload manageable? Did you end up studying more or less than you expected?

**5. (4 pts)**

Think about the program of study you are in. Did you feel that any of the topics we covered or skills we learned gave you something you may use in the future? If so, what?

**6. (4 pts)**

Think about the quizzes and tests. I understand that no one likes quizzes or tests. It’s not about enjoying them. Did you feel that they were an accurate picture of your understanding of the material? If not, is there something about tests and quizzes (the way they are designed) that helps you do better on them?