

MATH 097 FINAL
Winter 2010 Form A

Name _____ Instructor _____ Score _____

1. Find the value of: $\frac{2^2}{3} - \frac{7}{12}$

(Write your answer as a reduced fraction.)

1. _____(3)

2. A baseball player had 4 hits in twenty-five times at bat.
What percent were hits?

2. _____(3)

3. Frank bought his new briefcase on sale for 34% off the regular price P.
Write an expression for the amount he saved because he bought the briefcase
on sale.

3. _____(3)

4. Simplify: $(5 - 2)^2 - \sqrt{36} \div 3$

4. _____(3)

5. A stack of pennies is .0155 meter high. Express this number in scientific notation.

5. _____(3)

6. Solve: $2(4x + 3) = -3(x - 1) + 25$

6. $x =$ _____(3)

7. Solve: $0.5x + 4 = 9$

7. $x =$ _____(3)

8. Simplify the following and write your answer with positive exponents only:

$$\frac{9x^3y^2}{36xy^5}$$

8. _____(3)

9. Simplify: $a^2b^0c^{-2}$

9. _____(3)

10. Simplify: $\frac{5y^3 - 3y}{-15y}$

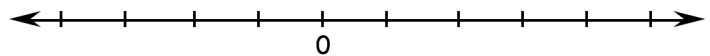
10. _____(3)

11. A ladder is leaning against a building. The building makes a right angle with the ground. The top of the ladder is 15 ft. above the ground and the bottom is 8 ft from the building. How long is the ladder?

11. _____(3)

12. Plot and label the following points on the real number line provided:

$$A=-2, B=-.7, C=\sqrt{17}, D=\frac{5}{3}, E=\pi$$



(3)

13. Solve for x: $3bx - 5d = 7$

13. $x =$ _____(3)

14. Solve: $\frac{x}{3} - 5 = -2$

14. $x =$ _____(3)

15. Simplify: $(5x^2 - x + 4) - (3x^2 - 2x + 6)$

15. _____(3)

16. Multiply: $(3x + 7)(2x - 3)$

17. Multiply: $-3x^2(x^2 - 2x + 5)$

16. _____(3)

18. Factor: $x^2 - 5x - 14$

17. _____(3)

19. Factor: $x^2 - 16$

18. _____(3)

20. Solve for x: $x^2 + x = 12$

19. _____(3)

20. $x =$ _____(3)

21. $P = 3x^2 - yx$ Find P when $x = -5$ and $y = 2$.

21. $P =$ _____(3)

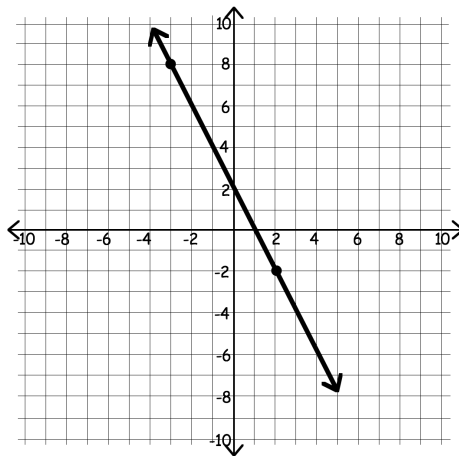
22. Is $(1, -3)$ a solution of $5 - xy = 7$? (SHOW WORK!)

22. YES _____ NO _____ (3)

23. What are the x and y intercepts of $2x - 3y = 8$?
Write your answers as ordered pairs.

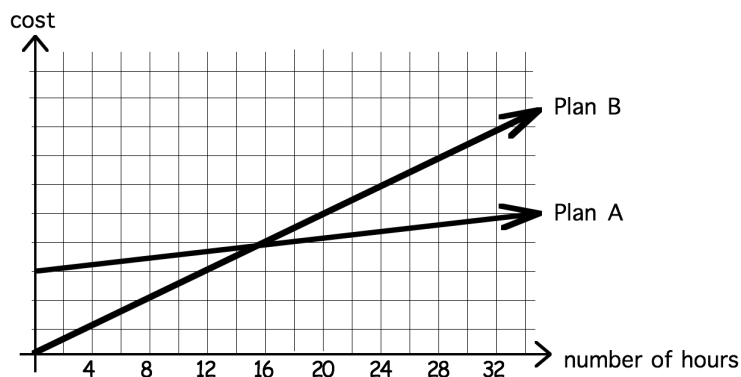
23. x-intercept (,)
y-intercept (,) (4)

24. What is the slope of the line below?



24. _____ (3)

25. Jackson has been comparing two different internet plans at CompuWorld. He wants to make a decision about which one is cheaper, based on his usage. The following graph represents the weekly cost of each plan, depending on the number of hours per week he spends on his computer.



a. Determine from the graph when the cost of the two plans would be the same.

25a. _____ (3)

b. Jackson usually spends ten hours per week on the internet. Which plan would be less expensive for him?

25b. _____ (3)

26. Sean just bought a condo. His realtor says that after t years, it should be worth V dollars, according to the equation: $V = 3000t + 80,000$.

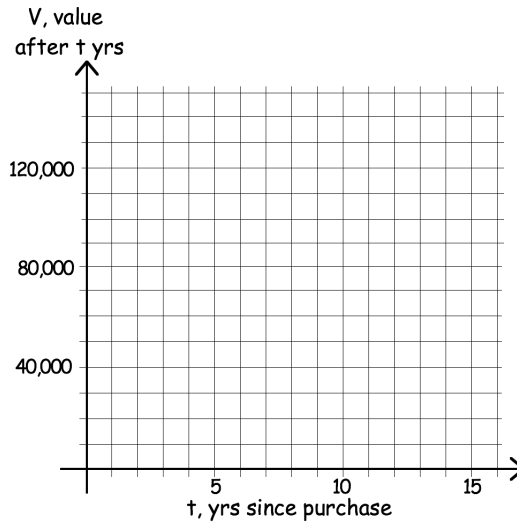
a. Use the formula to fill in the missing numbers in the table. (3)

t, yrs since purchase	V, value after t yrs
0	
3	\$89,000
5	
	\$104,000
10	\$110,000

b. How much will the condo be worth after 3 years?

26b. _____ (2)

c. Graph the ordered pairs from the table on the coordinate system given below and draw the line that connects them. (2)



d. Calculate the slope of the line that you drew.

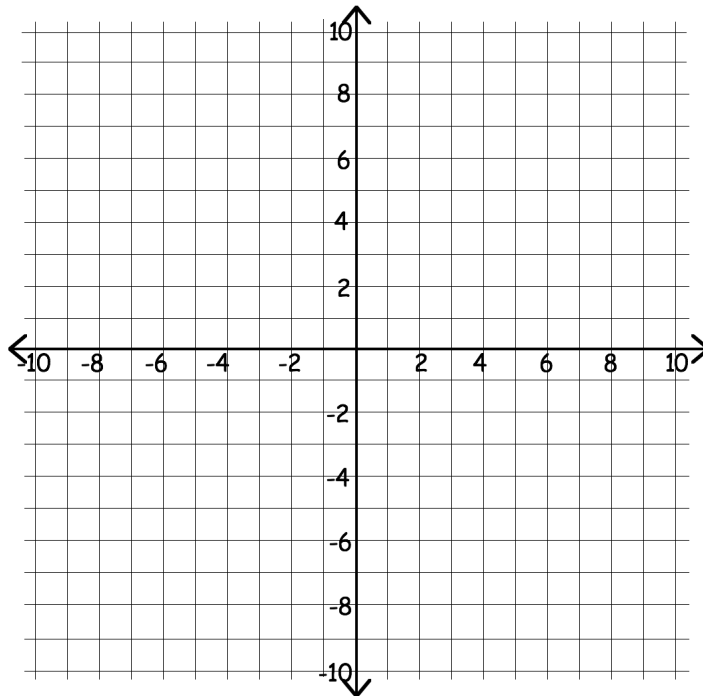
26d. _____ (2)

e. What does the slope of the line mean in this context?

26e. _____ (2)

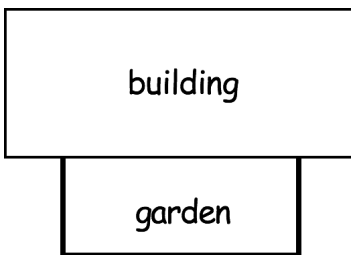
27. Graph and solve the following system:

$$\begin{cases} 2x + y = -4 \\ y = x + 8 \end{cases}$$



27. Solution: _____ (5)

28. Linda has decided to grow her own vegetables and wants to fence off a rectangular garden. An adjacent building will serve as one side of the garden, so she only needs to fence the other three sides. She wants the length to be five feet longer than the width and she has enough material to build 35 feet of fence. Use an algebraic equation to find the dimensions of the garden.



28a. Equation used: _____ (2)

28b. What are the lengths of the three fenced sides?

_____ (3)