

Math 111, Fall 2008 Final Exam

Name (print) _____

Instructor's name _____

Directions

1. Time limit: 1 hour 50 minutes. Each test should have **8 pages**. Points for each problem are to the right of the blank.
2. To receive credit on any problem, you must **show work** that explains how you obtained your answer or you must explain how you obtained your answer.
3. Write your work in **pencil** in the provided spaces. Your work must be neat, organized, and legible. Place answers on the line to the right of the problem.
4. You may use a calculator, but you may not use any notes, books or other sources. You can not share a calculator with another student. You may *not use a cell phone, PDA, etc.* * Work must be shown.
5. If a problem does not specify that an answer be written in fraction notation, mixed number notation, or decimal notation, then write the answer in the notation that you think is most appropriate for the problem. **All numerical fractions must be expressed in lowest terms.**
6. You are expected to do your own work. You are neither to receive nor to give any help on the exam.
7. Please write your name on the first and second pages.

I have read the directions.

Signature _____

(3 points each)

1a. Combine like terms. $-5.8w - (-4.7y) + 11.1 - 9.8w - 7.3y$

1a. _____

b. Divide and simplify. $(-40) \div \frac{2}{3m}$

b. _____

Simplify each of the following expressions.

c. $\frac{(-5)^3 + 17}{10(2-6) - 2(5+2)}$

c. _____

d. $\frac{28.7 + 0.42}{-0.01}$

d. _____

e. $(5.45 + 2.5) \div (-3\frac{3}{4})$

e. _____

1f. Fill in the blank with =, <, or >. $\frac{11}{24}$ _____ $\frac{13}{28}$

f. _____
(3 points)

2 **Solve the equations** (4points each)

a. $35 = 17 + 3(x - 2)$

2a. _____

b. $8x + 6 - 2 = 16 + 2x$

b. _____

c. $\frac{2}{3}x - \frac{4}{5} = \frac{8}{15}$

c. _____

d. $0.3x + 13.8 = -2.16$

d. _____

3. Arrange the following numbers from smallest to largest.

$$-\frac{4}{7}, \quad \frac{1}{2}, \quad 0.498, \quad -3$$

3. _____
(3points)

4a. Evaluate. $2a - |6b|$ for $a = 10$ and $b = -3$

4a. _____
(2 points)

b. Evaluate. $\frac{x+y}{4x+24}$ for $x = -6$ and $y = 2$

4b. _____
(2 points)

c. Evaluate. $s + rt$ for $s = 5\frac{1}{2}$, $r = 3$, $t = 2\frac{1}{4}$

4c. _____
(2 points)

5. A stereo system has a purchase price of \$585. If the tax rate is 8 % , find the tax on the stereo system and then find the total price.

5. _____

(3 points)

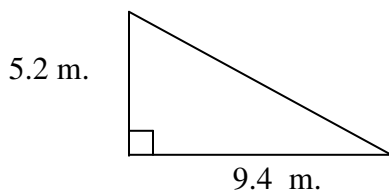
6. If your car traveled 389 miles on $15\frac{4}{10}$ gallons of gas. How many miles per gallon did it get? Round your answer to the nearest hundredth.

6. _____
(3 points)

7. If two angles of a triangle measure 35° and 92° then what is the measure of the third angle?

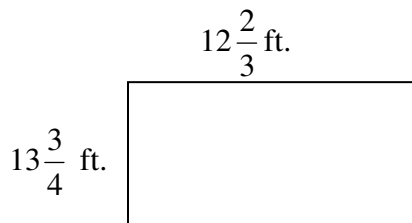
7. _____
(3 points)

8. Find the area of the triangle below to the nearest tenth.



8. _____
(3 points)

9. Rose would like to wall paper the border around the ceiling in her dining room, which is represented in the picture below. What is the length, in feet, of the wall paper that she will need to buy? If she can only buy the wall paper in yards find how many **yards** of wall paper that she will need.



9. _____

(3 points)

10a. Add the polynomials $(3x - 15x^2y) + (7y + 9x + 2x^2y)$

10a. _____
(3 points)

b. Multiply $5ab(a + 4b^2)$

b. _____
(3 points)

10c. Multiply $(6y - 1)(8y + 3)$

10c. _____
(3 points)

d. Multiply. Your answer should have *positive* exponents. Assume variables are nonzero.
 $(4a^2b^{-6})(7a^3b^2)$

d. _____
(3 points)

11. During a sale, a dress decreased in price from \$120 to \$75. What was the percent of decrease?

11. _____
(3 points)

12a. Write $\frac{7}{8}$ as a decimal _____ write as a percent _____

(3 points)

b. Write 260% as a decimal _____ write as a fraction _____
(3 points)

13. Fill in the blank at the right of each equation with the number of the correct property. (4 points)

- | | |
|--|---|
| I. Distributive Property | IV Identity Property for Multiplication |
| II Commutative Property of Addition | V Inverse Property for Multiplication |
| III Associative Property of Multiplication | VI Commutative Property of Multiplication |

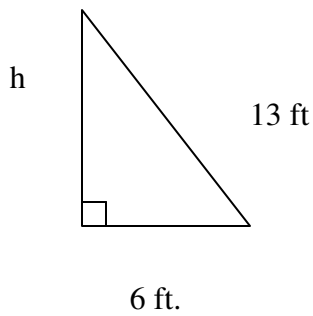
a. $8 + 6 + 4m = 6 + 4m + 8$ _____

b. $7(x + 2y) = 7x + 14y$ _____

c. $\frac{2}{3}\left(\frac{3}{2}\right) = 1$ _____

d. $7(4 \cdot 5) = (7 \cdot 4) \cdot 5$ _____

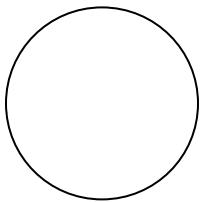
14. A 13 foot ladder leans against a building. The bottom of the ladder is 6 feet from the building. How high is the top of the ladder? (round to the nearest tenth of a foot)



14. _____

(3 points)

15. A lawn sprinkler sprays out in a circular pattern. If the circle has a diameter of 20 feet, what is the area of the lawn that is watered by the sprinkler? (use 3.14 for π).



15. _____

(3 points)

16. The standard dosage for a certain medicine for a dog is 10 grams for every 15 pounds of body weight. What is the standard dosage for a dog that weighs 80 pounds? Round to the nearest tenth of a gram.

16. _____

(3 points)

17. a. In which quadrant is each point located? (2 points)

$(-2,-3)$ _____

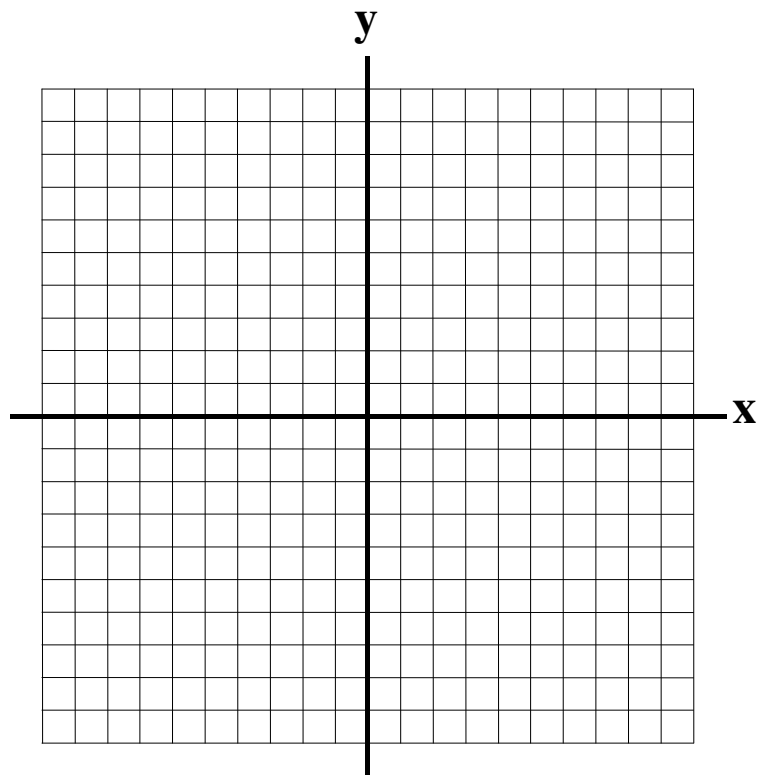
$(3,-4)$ _____

17b. Determine whether the ordered pair $(3,-5)$ is a solution to the equation $2x + 3y = -9$.

17. _____
(1 point)

18. For the equation $y = 3x - 5$, complete the table below, then graph the equation in the rectangular coordinate system. Label each of your ordered pairs on the graph.
(2 points) (3 points)

x	y	(x,y)
-1		
0		
	4	



THE END!