

Final Exam Review #3

Expressions

Equations

Inequalities

Practice Problem Set:

Expressions

1. Consider the expression: $3x - 1$.

- How many **terms** does the expression have? _____
- What is the **coefficient** of the variable term? _____
- Identify the **constant** term. _____

2. Write an **algebraic expression** for each verbal phrase.

- Seven less than a number **m**. _____
- The sum of twice a number **p** and three. _____
- Twice the sum of a number **p** and three. _____
- A number **x** subtracted from fifteen. _____
- Six less than a number **q**. _____
- The cost of **a** apples if each apple cost \$0.79. _____

3. The perimeter of a square is represented by $36x - 12$. Represent one side-length of the square.

4. The width of a rectangle is represented by **w**. The length of the rectangle is 3 times the width. Which expression below represents the **area** of the rectangle?

A. $w + 3w$

B. $2(w) + 2(3w)$

C. $w(3w)$

D. $w^2 + (3w)^2$

5. Gary went to a carnival over the weekend. He paid an admission fee to enter the carnival and spent additional money to go on x number of rides. He did not spend any money on food, drinks or games. The expression $0.75x + 10$ can be used to calculate the total amount of money Gary spent at the carnival.

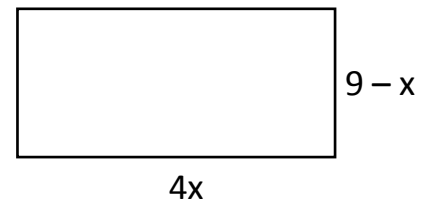
a. What does the number **10** represent in the expression?

b. What does the coefficient **0.75** represent in the expression?

6. Consider the rectangle pictured below. Express the **area** and **perimeter** as an algebraic expression in simplest form.

AREA

PERIMETER



Equations

Solve for x in each equation below.

7. $-\frac{1}{3}(12x + 2) = \frac{5}{6}$

8. $5x + 12 = 3x - 10$

9. $2(x - 1) = 8(x + 5)$

10. $4(x - 5) = 6 - 2(x + 7)$

11. While in the park, Fred decided to rent a bike for a few hours. He had to pay an initial fee of \$20 in addition to \$5 per hour. If Fred paid \$40, how many hours did he rent the bike? Write and solve an equation to answer the question. Define your variable.

12. Veronica bought 3 boxes of graham crackers for \$4.99 each and 2 jars of apple sauce for d dollars each. The charge before tax was \$20.47. Which equation below can be used to find the cost of one jar of apple sauce?

A. $4.99 + 5d = 20.47$

B. $4.99 + 2d = 20.47$

C. $14.97 + 2d = 20.47$

D. $9.98 + 3d = 20.47$

Inequalities

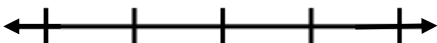

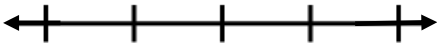
13. Using the given variable, write an **inequality** statement that represents the situation.

a. Sally is at least 12 years old. Let s represent Sally's age. _____

b. The maximum weight, w , for a suitcase is 50 pounds. _____

c. Ticket prices, p , for the concert start at \$60. _____

14. Solve each inequality and graph the solution set on the number line provided.

$3(x - 5) > 36$	$4(x - 9) < 5(x + 1)$	$-\frac{1}{4}(8x - 24) \geq 10$
		

15. The chess club has \$300 to spend at the Long Island Chess Competition. The club has to pay \$25 for bus transportation and a fee of \$15 for each match they compete in.

a. Write an **inequality** that can be used to determine the maximum number of matches, x , the club can compete in.

b. Solve your inequality from part (a).

c. How many matches can the club compete in?