### **Chapter 2 Test Review Sheet**

Name: Answ

Key

Date:

Identify the terms, factors and coefficients of the following equations. (3 Points)

1). 
$$-15 + 9y - 6z$$

2). 
$$10d + 3a - 15b$$

## Interpret the parts of the following expression (2 points)

3). Vandan is buying fruits and vegetables. He buys W apples for \$.50 per apple and Z carrots for \$.05 per carrot. What does the expression .50w + .05z represent?

# Create and expression for the following algebraic models. Simplify your expression. (2 points)

- 4). The price of an item plus 15% sales tax.
  - P + .15 (p)
- 5). The price of a house plus 30% closing costs.

$$h + .3(h)$$

# Solve the following expressions. (3 Points)

6). 
$$2x + 60 = 150$$
  
 $-(40)$   $-(40)$   
 $2x = 90$ 

$$\frac{3x = 40}{2}$$

$$x = 45$$

7). 
$$\frac{2}{5}x + 8 = 3$$

$$\frac{5}{2}\left(\frac{3}{5}(x)\right) = -5\left(\frac{5}{2}\right)$$

### Create and solve an algebraic expression for each word problem. (3 points)

8). One month, Molly worked 3 hours more than Dylan, and max worked 4 times as many hours as Molly. Together they worked 80 hours. Find the number of hours each person worked.

Molly: 
$$x + 3$$
  $x + x + 3 + 4(x + 3) = 80$   
Dylan:  $x + 4 + 3 + 4 + 4 + 12 = 80$   
Max:  $4(x + 3)$   $6x + 15 = 80$   
 $-15 - 15$   
Dylan:  $10.83$   
Nolly:  $13.83$   
Max:  $55.32$   $x + 2 + 3 + 4(x + 3) = 80$   
 $6x + 15 = 80$   
 $-15 - 15$   
 $6x = 65$   
 $6x = 65$   
 $6x = 65$ 

9). One moving company charges \$200 plus \$10 per hour. Another moving company charges \$150 plus \$20 per hour. At what number of hours will the charge by both companies be the same? What is the charge?

$$200 + 10(x) = 150 + 20(x)$$
 $-10(x)$ 
 $-10(x$ 

10). Nick plans to make a down payment plus monthly payments in order to buy a motorcycle. At one dealer she would pay \$1500 down and \$75 each month. At another dealer, she would pay \$2000 down and \$100 each month. After how many months would the total amount paid be the same for both dealers? What would that amount be?

Company #1: 
$$1500 + 100(x)$$
 $1500 + 100(10)$ 
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11. The perimeter of a parallelogram is 200 meters. The width of the parallelogram is 10 meters less than its length. Find the length and the width of the parallelogram.

Lotal: 200 
$$2(x) + 2(x-10) = 200$$
  
Width:  $x-10$   $2x + 2x - 20 = 200$   
length:  $x$   $4x = 220$   
 $4x = 220$   
 $4x = 230$   
Width: 45

12). Kim works 4 hours more each day than Jill does, and Jack works 2 hours less each day than Jill does. Over 2 days, the number of hours Kim works is equal to the difference of 5 times the number of hours Jill works. How many hours does each person work each day?

	Hours Per Day	Hours over 2 days	
Kim	x +4	a (x+4)	
5.11	χ	дx	
Tacle	X - 2	2(x-2)	

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Solve the following equations for the indicated variable. (2 Points)

$$4P + 10R = Q$$

$$-10R - 10R$$

$$4p = Q - 10R$$

$$4$$

$$4$$

$$P = Q - 10R$$

$$\frac{2}{3}(P+9) = Y$$

$$\frac{3}{2}(\frac{2}{3}(P+9)) = Y(\frac{3}{2})$$

$$P+Q = \frac{3}{2}Y$$

$$Q = \frac{3}{2}Y-Q$$

$$P = \frac{3}{2}Y-Q$$

$$\frac{m}{TC} = W$$

16). The formula c = 5p + 215 relates c, the total cost in dollars of hosting a birthday party at a skating rink, to p, the number of people attending. If Allie's parents are willing to spend \$250 for a party, how many people can attend?

Solve the Equation for p

$$C = 5p + 215$$
  
 $-215 = 5p$   
 $C - 215 = 5p$   
 $C - 215 = p$ 

Substitute Values Into New Equation

$$\frac{35}{5} = P$$

$$\frac{35}{5} = P$$

$$\frac{7}{7} = P$$

Solve and graph the following Inequalities. (3 Points)

17). 
$$6+3(x+2) \le 24$$

$$6+3(x+2) \le 24$$

$$6+3x+6 \le 24$$

$$3x+12 \le 24$$

$$-12-12$$

$$3x \le 12$$

$$3 \le 12$$

$$3 \le 4$$

$$x \le 4$$

18).  $x+2 > -2(6-1x)$ 

$$x+2 > -12 + 2x$$

$$-x$$

$$-x$$

$$14 > x$$

19). The school band will sell pizzas to raise money for new uniforms. The supplier charges \$75 plus \$5 per pizza. The band members sell the pizzas for \$10 each. Write, solve, and graph an inequality to find how many pizzas the band members will have to sell to make a profit?

$$\frac{75 + 5(x)}{5} < \frac{5(x)}{5}$$
 $\frac{75}{5} < \frac{5(x)}{5}$ 

20). Zachary is planning to send a video game to each of his two brothers. If he buys the same game for both brothers and pays \$2.50 to ship each game, how much can he spend on each game without spending more than \$75? Write, solve, and graph an inequality for this situation.

$$a(x+a.50) \le 75$$

$$2x + 5 \le 75$$

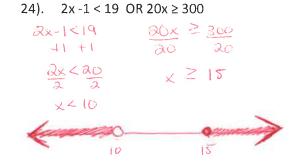
$$-5 -5$$

$$2x \le \frac{10}{a}$$

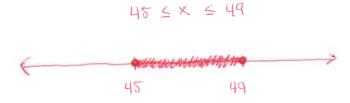
$$x \le 35$$

Solve the following Inequalities and graph your results. (3 points).

23). 
$$x-3 \ge 8$$
 OR  $x-10 \le -26$   
 $x-3 \ge 8$   $x-10 \le -26$   
 $x-10 \le -26$   
Graph the following problem. (2 Points).



25). The recommended alkalinity level for swimming pool water is between 45 and 49 parts per million, inclusive.



### Complete the truth table (12 points)

<u>P</u>	Q	<u>P</u>	Q	P AND Q
		True or False?	True or False?	True or False?
Red is a color	9 is an odd			
	number	True	True	Truc
Red is a fruit	9 is an odd			
	number	False	True	False
Red is a color	9 is an even			
	number	True	False	False
Red is a fruit	9 is an even			
	number	False	False	F-cuse

#### Complete the truth table (12 points)

<u>P</u>	Q	P True or False?	Q True or False?	P OR Q True or False?
Pennsylvania is a state	Owls can fly	True	True	True
Pennsylvania is a country	Owls can fly	False	True	True
Pennsylvania is a country	Owls cannot fly	False	False	Fulse
Pennsylvania is a state	Owls cannot fly	Truc	False	True