Math 6 - Unit 4: Equations & Inequalities   Name: _____

Direct Variation and Equation Review

Class Period: 1   2   3   4   Date: _____

Write an equation to model each problem then solve for the variable and then check to see if your solution is correct. You MUST show all your work.

1) Jordyn saved $88. His sister saved $105. Write and solve an equation to find how much more Jordyn's sister saved.

2) Four friends went out to dinner. When they split the bill, they each had to pay $7.87. What was the total bill for the dinner?

Solve the following equations and check your work.   You MUST show all your work.

3) $u - 37 = 208$

4) $m + \frac{1}{7} = \frac{5}{7}$

5) $7h = 133$

6) $\frac{x}{14} = 8$

7) A direct variation graph always begins at the _____ and is always a _____.

8) Write an equation to model the relationship in the table. _____

x	0	2	7	11
y	0	10	35	55

9) To solve an equation I use an _____ operation on _____ sides of the equation.
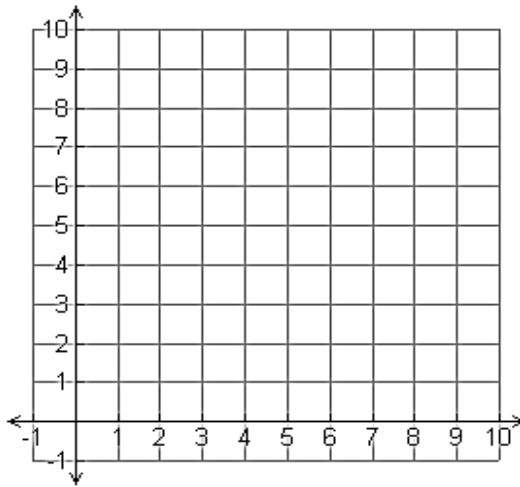
Then I _____ that answer back into the equation to _____ my answer.

10) Complete the table of values to satisfy the direct variation equation $y = 15x$.

x	0	3	5	8
y				

11) Use the direct variation equation to complete the table and then graph the ordered pairs.

y = 2.5x	**x**	0	1	2	3
	y				

12) Nassir is saving up for a new bike. He earns $6 for each chore he does. The bike costs a total of $102.

What is the constant of variation, **k**? _____

x, the input/ind. variable represents: _____

y, the output/dep. variable represents: _____

What direct variation equation represents this situation? _____

How many chores does Nassir have to do to earn enough money to buy the bike? _____

Complete the chart below using your equation.

x	0	2	5	10	15
y					

*For numbers 13 – 16, use the given rules to find the missing **x** and **y** values.*

13) **y = $\frac{1}{3}$x**

x		3	6		14
y	0			3	

14) **y = 12x**

x	0	1		6		12
y			48		120	

15) **y = 1.2x**

x		1	2		5
y	0			3.6	

16) **y = 25x**

x	0	1		5		13
y			50		250	

Math 6 - Unit 4: Equations & Inequalities
*Direct Variation and Equation Review **Answer Key***

Name: _____

Class Period: 1   2   3   4   Date: _____

Write an equation to model each problem then solve for the variable and then check to see if your solution is correct. You MUST show all your work.

1) Jordyn saved $88. His sister saved $105. Write and solve an equation to find how much more Jordyn's sister saved. **88 + s = 105; s = 17**

2) Four friends went out to dinner. When they split the bill, they each had to pay $7.87. What was the total bill for the dinner? $\frac{x}{4} =$ **7.87; x = $31.48**

Solve the following equations and check your work.   You MUST show all your work.

3) $u - 37 = 208$ **; u = 245**

4) $m + \frac{1}{7} = \frac{5}{7}$ **; m = $\frac{4}{7}$**

5) $7h = 133$ **; h = 19**

6) $\frac{x}{14} = 8$ **x = 112**

7) A direct variation graph always begins at the **_origen_** and is always a **_straight line_**.

8) Write an equation to model the relationship in the table. **y = 5x**

x	0	2	7	11
y	0	10	35	55

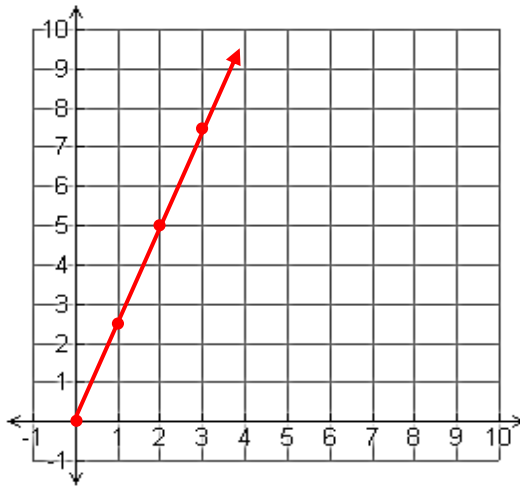9) To solve an equation I use an **_inverse_** operation on **_both_** sides of the equation. Then I

substitute that answer back into the equation to **_check_** my answer.

10) Complete the table of values to satisfy the direct variation equation y = 15x.

x	0	3	5	8
y	**0**	**45**	**75**	**120**

11) Use the direct variation equation to complete the table and then graph the ordered pairs.

$y = 2.5x$	**x**	0	1	2	3
	y	**0**	**2.5**	**5**	**7.5**

12) Nassir is saving up for a new bike. He earns $6 for each chore he does. The bike costs a total of $102.

What is the constant of variation, **k**? <u>**6**</u>

x, the input/ind. variable represents: <u>**Number of chores Nassir does**</u>

y, the output/dep. variable represents: <u>**Total money saved**</u>

What direct variation equation represents this situation? <u>**y = 6x**</u>

How many chores does Nassir have to do to earn enough money to buy the bike? <u>**17 chores**</u>

Complete the chart below using your equation.

x	0	2	5	10	15
y	**0**	**12**	**30**	**60**	**90**

*For numbers 13 – 16, use the given rules to find the missing **x** and **y** values.*

13) $y = \frac{1}{3}x$

x	**0**	3	6	**9**	14
y	0	**1**	**2**	3	$\frac{14}{3}$

14) $y = 12x$

x	0	1	**4**	6	**10**	12
y	**0**	**12**	48	**72**	120	**144**

15) $y = 1.2x$

x	**0**	1	2	**3**	5
y	0	**1.2**	**2.4**	3.6	**6**

16) $y = 25x$

x	0	1	**2**	5	**10**	13
y	**0**	**25**	50	**125**	250	**325**