

## Semester 1 Final Review WS

Date \_\_\_\_\_ Period \_\_\_\_\_

**Write each as an algebraic expression.**1) the quotient of  $r$  and 7 is 192) 8 less than  $a$  is 173) half of  $x$  is equal to 36**Evaluate each expression.**

4)  $\frac{8-2}{(1-2)(3)}$

5)  $\left| \frac{8}{-2} \right| \cdot -3 - 2$

**Evaluate each using the values given.**6)  $p - p - (q - r) - r$ ; use  $p = 2$ ,  $q = 3$ , and  $r = 4$ **Simplify each expression.**

7)  $-4(-2 + 9x) - 4x$

8)  $-8b(1 + 9b) + 9(8b - 5)$

**Solve each equation.**

9)  $x - 17 = -27$

10)  $10 = \frac{k}{4}$

11)  $11n = -209$

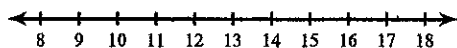
12)  $p - (-8) = -4$

$$13) -10 = 5(m - 8)$$

$$14) 5(-6x + 6) + 8x = -(-3x - 5)$$

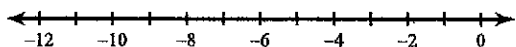
**Solve each inequality and graph its solution.**

$$15) 6v + 20 \leq 6(v + 4)$$

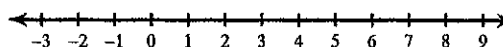


**Solve each compound inequality and graph its solution.**

$$16) -96 < 10k + 4 \leq -26$$



$$17) -10a - 6 < -46 \text{ or } 7a - 8 < -8$$



**Solve each problem.**

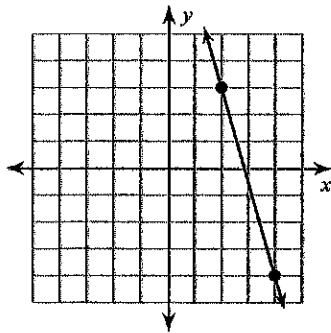
18) What percent of 77 ft is 61 ft?

19) What is 36% of \$52?

20) 400% of what is 111 tons?

**Find the slope of each line.**

21)



**Find the slope of the line through each pair of points.**

22)  $(-11, -5), (-5, 16)$

**Find the slope of each line.**

23)  $x - 2y = 4$

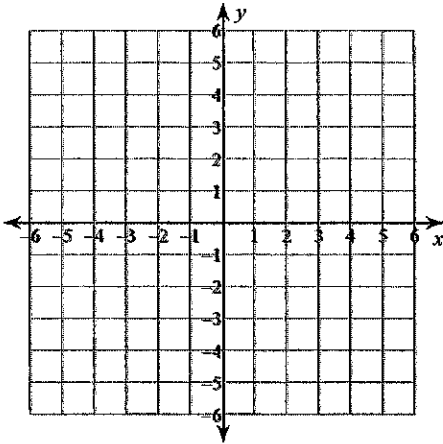
24)  $y = -\frac{1}{5}x + 3$

**Find the value of x or y so that the line through the points has the given slope.**

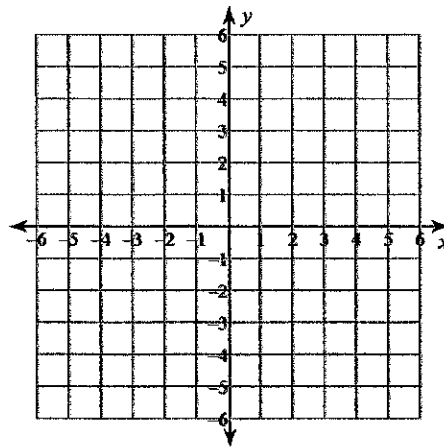
25)  $(x, -8)$  and  $(-9, -5)$ ; slope:  $-3$

Sketch the graph of each line.

26)  $x + 5y = -15$

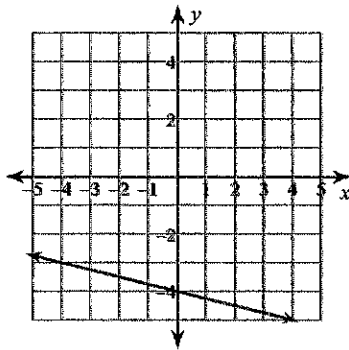


27)  $y = \frac{2}{3}x - 3$



Write the slope-intercept form of the equation of each line.

28)



Write the slope-intercept form of the equation of each line given the slope and y-intercept.

29) Slope =  $\frac{3}{2}$ , y-intercept = 5

Write the slope-intercept form of the equation of each line.

30)  $2x + y = 6$

Write the slope-intercept form of the equation of the line through the given point with the given slope.

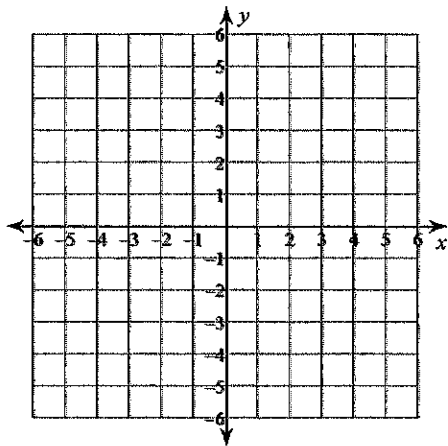
31) through:  $(4, 4)$ , slope = 8

Write the slope-intercept form of the equation of the line through the given points.

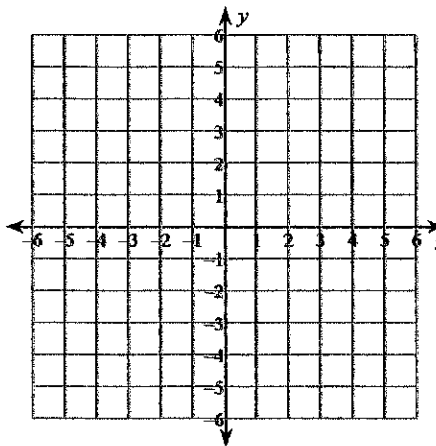
32) through:  $(0, -4)$  and  $(5, -3)$

Sketch the graph of each linear inequality.

33)  $y \leq \frac{1}{5}x + 1$



34)  $y > \frac{6}{5}x + 2$



Find each percent change. State if it is an increase or a decrease.

35) From 29 to 30

36) From 73 to 18

# Answers to Semester 1 Final Review WS (ID: 1)

1)  $\frac{r}{7} = 19$

2)  $a - 8 = 17$

3)  $\frac{x}{2} = 36$

4)  $-2$

5)  $-10$

6)  $-3$

7)  $8 - 40x$

8)  $64b - 72b^2 - 45$

9)  $\{-10\}$


10)  $\{40\}$

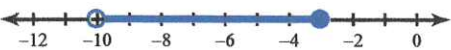
11)  $\{-19\}$

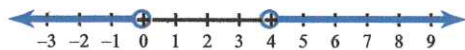
12)  $\{-12\}$

13)  $\{6\}$

14)  $\{1\}$

15)  $\{\text{All real numbers.}\}$  : 

16)  $-10 < k \leq -3$  : 

17)  $a > 4$  or  $a < 0$  : 

18) 79.2%

19) \$18.72

20) 27.8 tons

21)  $-\frac{7}{2}$

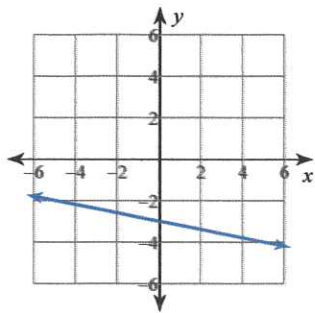
22)  $\frac{7}{2}$

23)  $\frac{1}{2}$

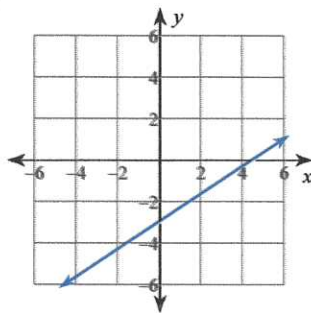
24)  $-\frac{1}{5}$

25)  $-8$

26)



27)



28)  $y = -\frac{1}{4}x - 4$

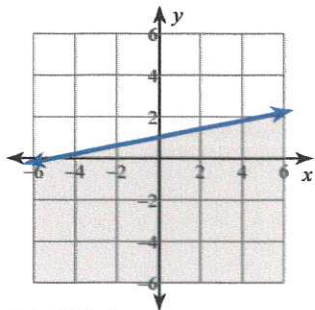
29)  $y = \frac{3}{2}x + 5$

30)  $y = -2x + 6$

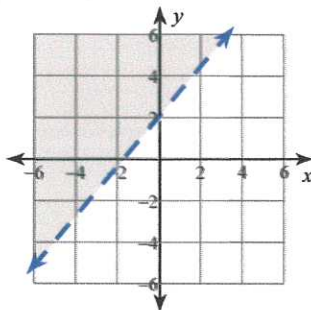
31)  $y = 8x - 28$

32)  $y = \frac{1}{5}x - 4$

33)



34)



35) 3.4% increase

36) 75.3% decrease