

Semester 1 Review # 1

Date _____ Period _____

© 2013 Kuta Software LLC. All rights reserved.

Solve each equation.

1) $8(3b + 3) = 5b + 5$

2) $6(8n - 1) = -6 + 5n$

3) $-21 + a = 7(6a - 3)$

4) $2 + 5v = -v + 2(1 + 7v)$

5) $3(1 - 2x) = 7 - 5x$

6) $29 - n = -4(n - 2)$

7) $\frac{3}{2}v + \frac{9}{2} - \frac{11}{3}v = \frac{23}{8}$

8) $x - \frac{1}{3} + \frac{7}{6} = \frac{37}{12}$

9) $n + \frac{3}{4} - \frac{1}{8} = \frac{7}{24}$

10) $-\frac{31}{8}x - \frac{3}{5}x = -\frac{179}{60}$

Solve each proportion.

11) $\frac{8}{k+3} = \frac{6}{9}$

12) $\frac{4}{6} = \frac{p+9}{5}$

$$13) \frac{2}{9} = \frac{9}{x-6}$$

$$14) \frac{8}{4} = \frac{2}{n+8}$$

Solve each equation.

$$15) 2|7+n| = 28$$

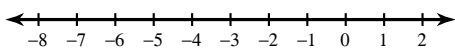
$$16) |v-10| - 4 = 5$$

$$17) |p-6| - 10 = -6$$

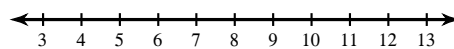
$$18) 2 + |-6m| = 56$$

Solve each inequality and graph its solution.

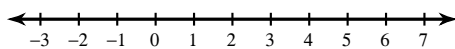
$$19) 3(-8x+4) < 84$$



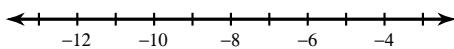
$$20) -130 < -4 - 2(7r+7)$$



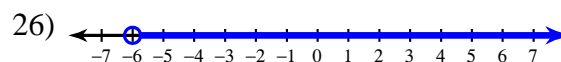
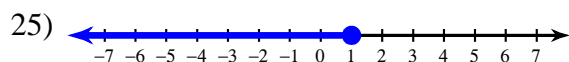
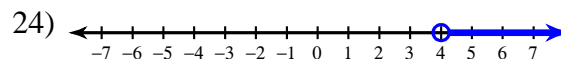
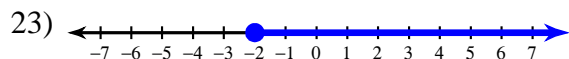
$$21) 6(1-5a) < 2a+38$$



$$22) 7-v < 4(-7-2v)$$

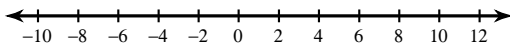


Write an inequality for each graph.

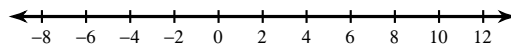


Solve each compound inequality and graph its solution.

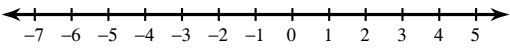
27) $7 - 4r \geq 31$ or $3 - 7r \leq -53$



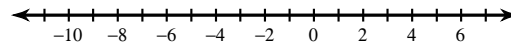
28) $8x - 6 < 66$ and $-8 + 5x \geq -38$



29) $7m + 4 \leq -17$ or $2m - 5 \geq -9$

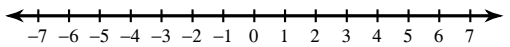


30) $-57 < 6n - 9 < 27$

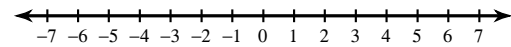


Draw a graph for each inequality.

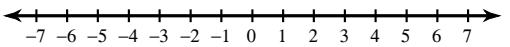
31) $r \leq -6$



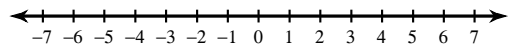
32) $n \leq 1$



33) $v \leq 4$

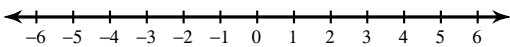


34) $n > -2$

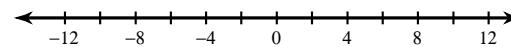


Solve each inequality and graph its solution.

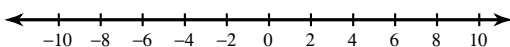
35) $\frac{|-10n|}{4} \leq 5$



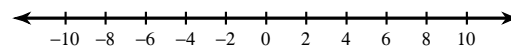
36) $7 \left| \frac{x}{7} \right| \geq 9$



37) $\left| \frac{a}{7} \right| + 4 > 5$

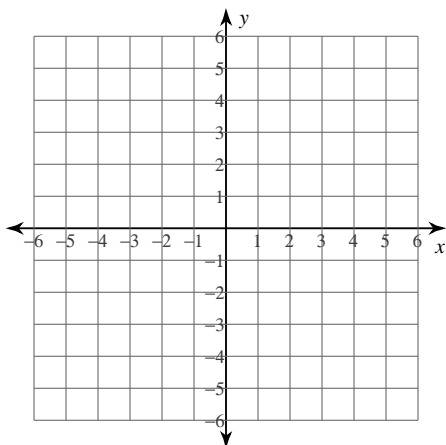


38) $7 \left| \frac{v}{7} \right| \leq 9$

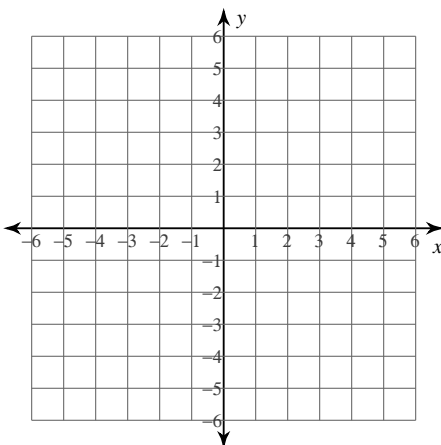


Sketch the graph of each line.

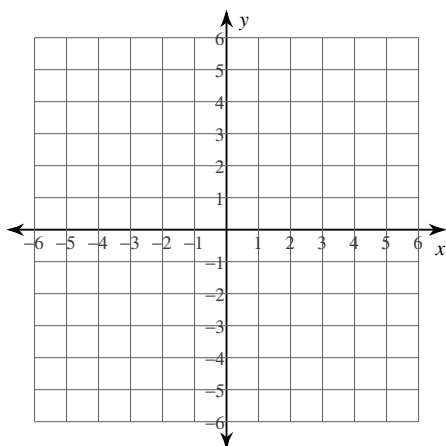
39) x -intercept = -2 , y -intercept = -3



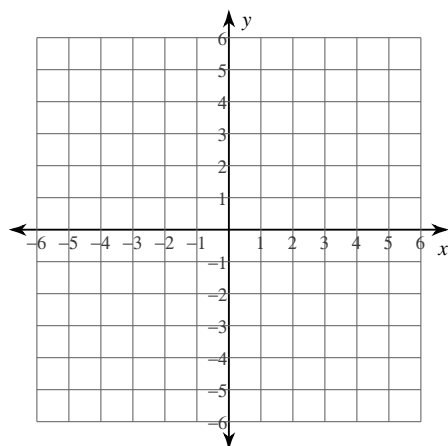
40) x -intercept = 1 , y -intercept = -2



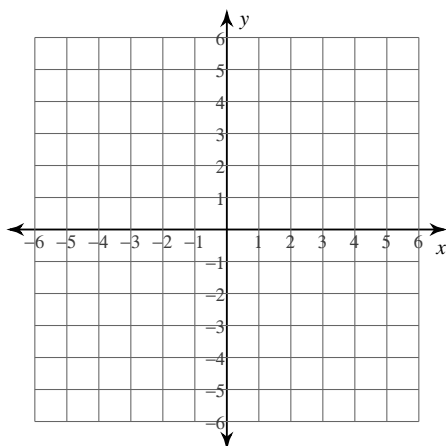
41) $y = -\frac{4}{5}x + 1$



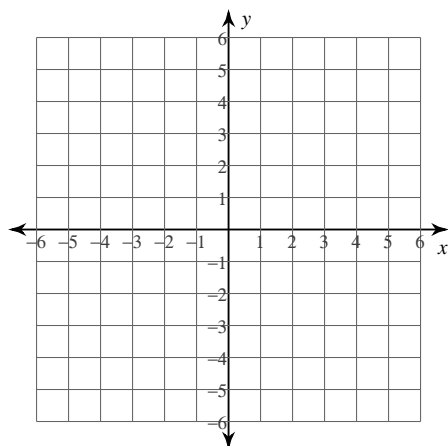
42) $y = \frac{3}{2}x + 2$



43) $x - 5y = 25$

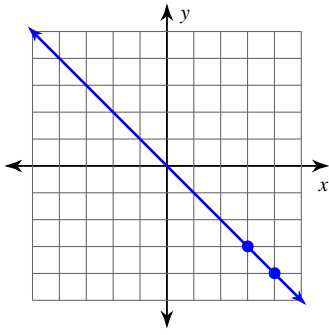


44) $8x - y = -3$

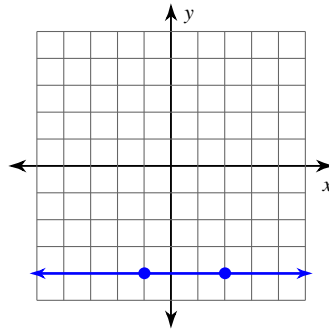


Find the slope of each line.

45)



46)



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

47) $(-11, 1), (-15, -3)$

48) $(-15, -20), (17, 20)$

Find the slope of each line.

49) $y = \frac{3}{4}x - 1$

50) $y = -3x - 5$

Find the slope of a line parallel to each given line.

51) $x = -3$

52) $y = \frac{7}{2}x + 2$

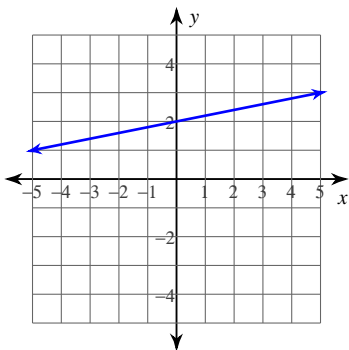
Find the slope of a line perpendicular to each given line.

53) $y = -\frac{4}{3}x + 3$

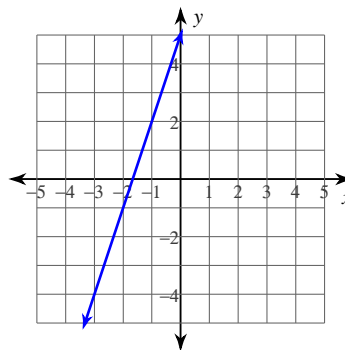
54) $y = \frac{1}{5}x + 2$

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

55)



56)



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

57) Slope = -5 , y-intercept = -5

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

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

59) $x - 4y = -12$

60) $3x - 7y = 0$

61) $y - 3 = -\frac{3}{4}(x + 4)$

62) $y + 1 = -\frac{1}{5}(x + 4)$

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

63) through: $(2, -3)$, slope = $-\frac{1}{3}$

64) through: $(-4, 4)$, slope = $-\frac{5}{7}$

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

65) through: $(-5, -1)$ and $(-4, 0)$

66) through: $(-4, 1)$ and $(-1, 0)$

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

67) through: $(-5, 0)$, parallel to $y = -\frac{4}{5}x + 1$

68) through: $(3, -2)$, parallel to $y = -\frac{4}{3}x - 5$

69) through: $(-5, -5)$, perp. to $y = -\frac{5}{8}x + 4$

70) through: $(-3, 1)$, perp. to $y = -x + 5$

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

1) $\{-1\}$

2) $\{0\}$

3) $\{0\}$

4) $\{0\}$

5) $\{-4\}$

6) $\{-7\}$

7) $\left\{\frac{3}{4}\right\}$

8) $\left\{\frac{9}{4}\right\}$

9) $\left\{-\frac{1}{3}\right\}$

10) $\left\{\frac{2}{3}\right\}$

11) $\{9\}$

12) $\{-5.66\}$

13) $\{46.5\}$

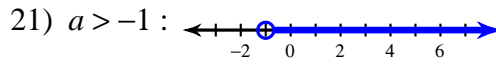
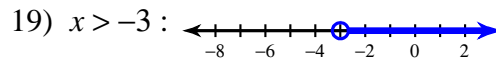
14) $\{-7\}$

15) $\{7, -21\}$

16) $\{19, 1\}$

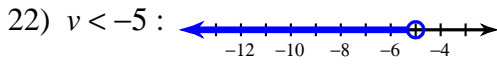
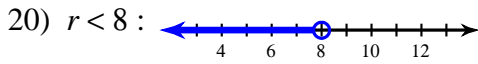
17) $\{10, 2\}$

18) $\{-9, 9\}$



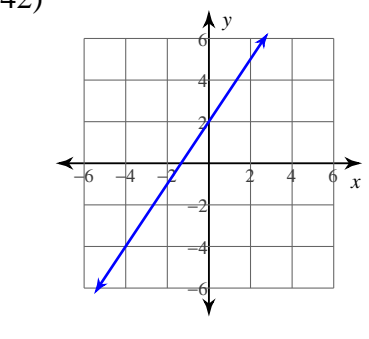
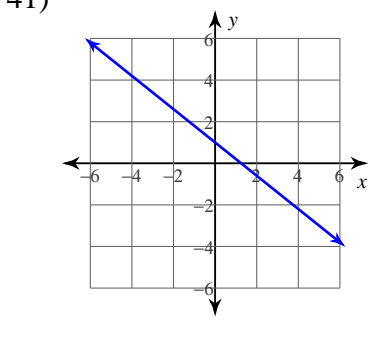
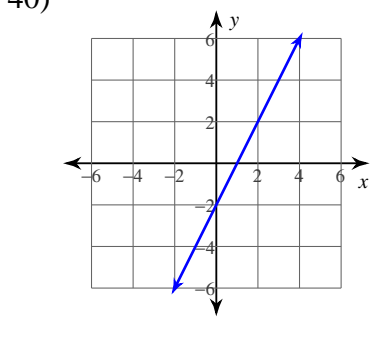
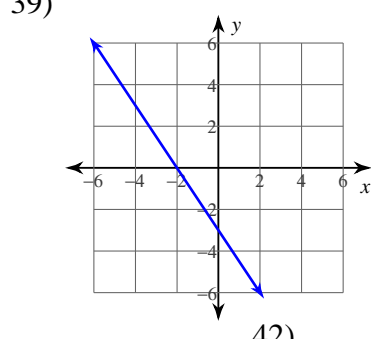
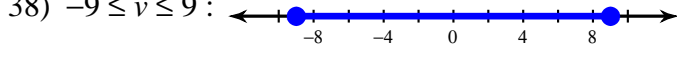
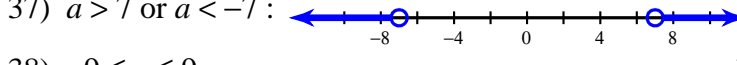
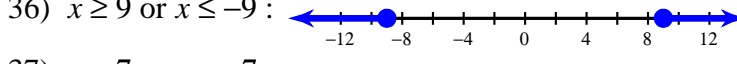
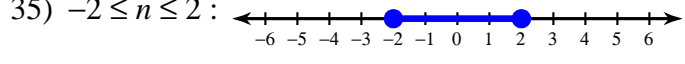
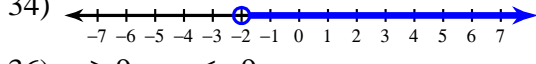
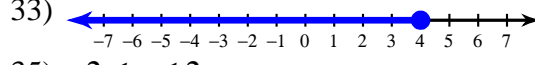
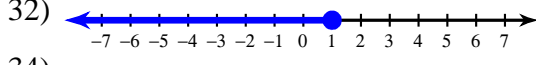
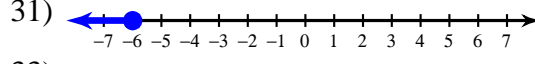
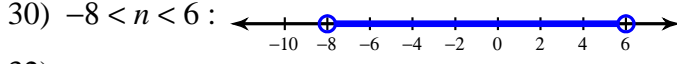
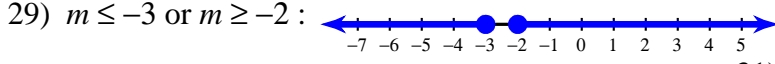
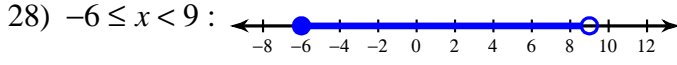
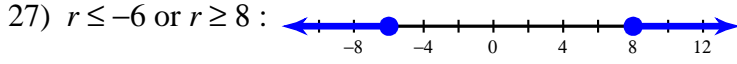
23) $n \geq -2$

24) $x > 4$

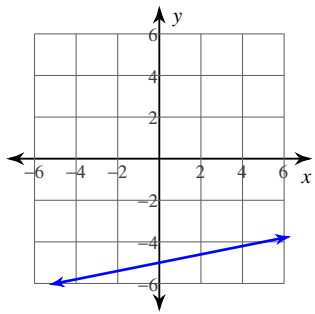


25) $b \leq 1$

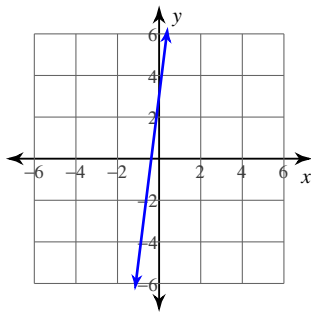
26) $x > -6$



43)



44)



45) -1

46) 0

47) 1

48) $\frac{5}{4}$

49) $\frac{3}{4}$

50) -3

51) Undefined

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

53) $\frac{3}{4}$

54) -5

55) $y = \frac{1}{5}x + 2$

56) $y = 3x + 5$

57) $y = -5x - 5$

58) $y = -\frac{2}{5}x - 3$

59) $y = \frac{1}{4}x + 3$

60) $y = \frac{3}{7}x$

61) $y = -\frac{3}{4}x$

62) $y = -\frac{1}{5}x - \frac{9}{5}$

63) $y = -\frac{1}{3}x - \frac{7}{3}$

64) $y = -\frac{5}{7}x + \frac{8}{7}$

65) $y = x + 4$

66) $y = -\frac{1}{3}x - \frac{1}{3}$

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

68) $y = -\frac{4}{3}x + 2$

69) $y = \frac{8}{5}x + 3$

70) $y = x + 4$