

Review B

Solve each inequality, graph its solution, and give interval notation.

1) $-9 + 2a < 5(a - 6)$

2) $2(4 - 5k) \leq 38 - 4k$

3) $29 - p > -(-1 - 3p)$

4) $-2(x + 7) - 4 > -5x - 21$

5) $-57 \leq 6 - 7n < 20$

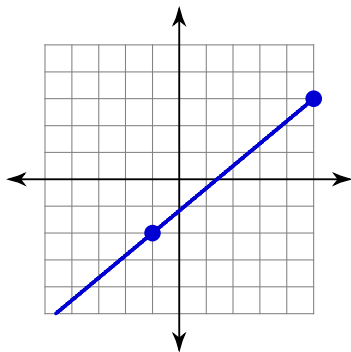
6) $14 \leq 5 + 3m < 35$

7) $-54 \leq -6 + 6r \leq -30$

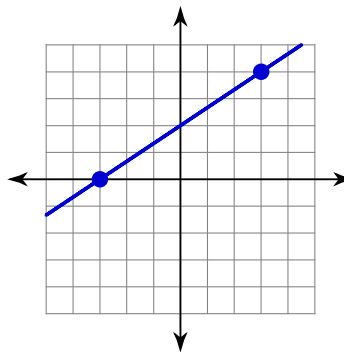
8) $8 \leq -1 - 3x \leq 14$

Find the slope of each line.

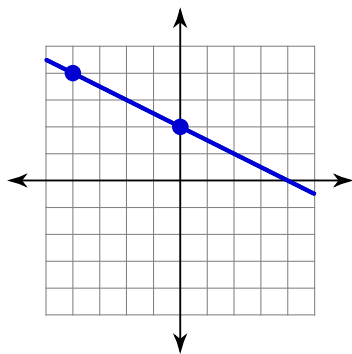
9)



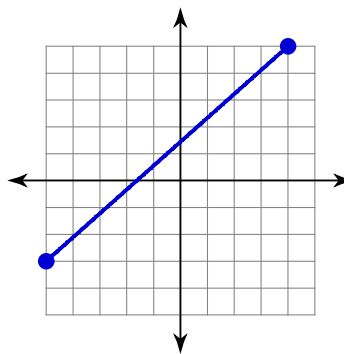
10)



11)



12)



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

13) $(-3, 18), (17, 12)$

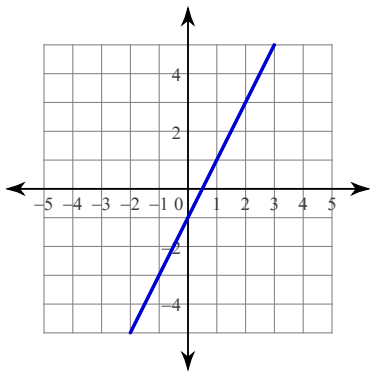
14) $(-4, 20), (20, -9)$

15) $(-17, 8), (11, 15)$

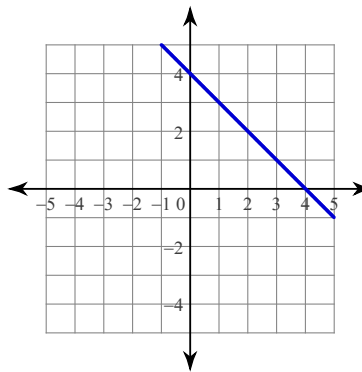
16) $(20, -13), (1, -12)$

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

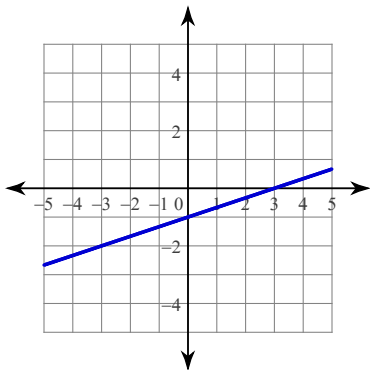
17)



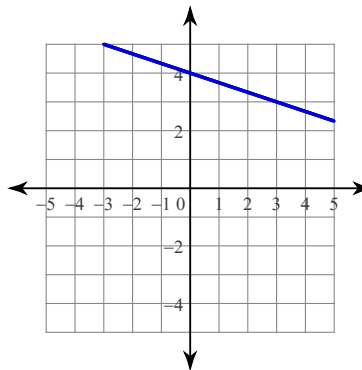
18)



19)



20)



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

21) through: (5, 4) and (2, -5)

22) through: (-3, 4) and (2, -1)

23) through: (1, 3) and (0, 5)

24) through: (1, -1) and (-4, 5)

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

25) $x + y = -1$

26) $10x + 13y = 11$

27) $x - 2y = -4$

28) $x - 4y = 12$

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

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

30) through: (5, -2), parallel to $y = -\frac{7}{5}x - 5$

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

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

33) through: $(4, 5)$, perp. to $y = -x + 1$

34) through: $(-1, -3)$, perp. to $y = -\frac{1}{5}x$

35) through: $(2, 1)$, perp. to $y = 2x$

36) through: $(-5, -4)$, perp. to $y = -\frac{5}{7}x + 3$

Clearly set up and solve each problem.

37) The electrical current, in amperes, in a circuit varies directly as the voltage. When 15 volts are applied, the current is 5 amperes. What is the current with 18 volts are applied?

38) The current in an electrical conductor varies inversely as the resistance of the conductor. If the current is 12 amperes when the resistance is 240 ohms, what is the current when the resistance is 540 ohms?

39) The area of a kite varies jointly with the two diagonals. A kite with diagonals of 6 cm and 3 cm has an area of 9 cm^2 . What is the area of a kite with diagonals of 10 in and 4 in?

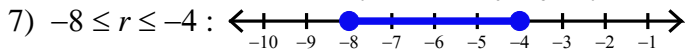
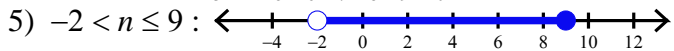
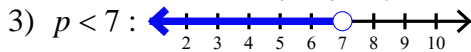
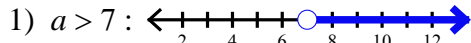
40) The intensity of a light from a light bulb varies inversely as the square of the distance from the bulb. Suppose intensity is 90 W/m^2 when the distance is 5 m. What would the distance be to a point where the intensity is 40 W/m^2 ?

41) A passenger and freight train start towards each other at the same time from two points 300 miles apart. If the rate of the passenger train exceeds the rate of the freight train by 15 mph, and they meet after 4 hours, what must the rate of each train be?

42) A man travels 5 miles an hour. After traveling for 6 hours, another man starts from the same place and follows at a rate of 8 miles per hour. After how much time will the second man over take the first?

43) A motorboat leaves a harbor and travels at an average speed of 15 miles per hour towards an island. The average speed on the return trip was 10 mph. How far was the island from the harbor if the total trip took 5 hours?

Answers to Review B



9) $\frac{5}{6}$

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

13) $-\frac{3}{10}$

14) $-\frac{29}{24}$

17) $y = 2x - 1$

18) $y = -x + 4$

21) $y = 3x - 11$

22) $y = -x + 1$

25) $y = -x - 1$

26) $y = -\frac{10}{13}x + \frac{11}{13}$

29) $y = -\frac{1}{5}x - 2$

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

33) $y = x + 1$

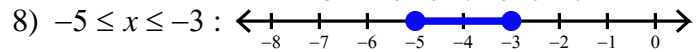
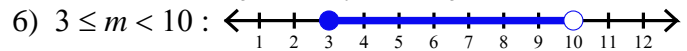
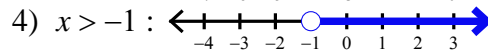
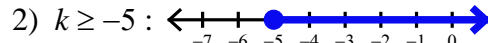
34) $y = 5x + 2$

37) 6

38) 5.3

41) 30, 45

42) 10



11) $-\frac{1}{2}$

12) $\frac{8}{9}$

15) $\frac{1}{4}$

16) $-\frac{1}{19}$

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

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

23) $y = -2x + 5$

24) $y = -\frac{6}{5}x + \frac{1}{5}$

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

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

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

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

35) $y = -\frac{1}{2}x + 2$

36) $y = \frac{7}{5}x + 3$

39) 20

40) 7.5

43) 30