

Algebra 1 Final Exam Review

Write each as an algebraic expression.

1) n cubed

2) the product of n and 8

Evaluate each expression.

3) $-\frac{21 \times 2}{(-4) - (-10)}$

4) $\frac{13 - 4}{-9} - 10$

Name the set or sets to which each number belongs.

5) $\sqrt{99}$

6) $\frac{5}{14}$

Evaluate each expression.

7) $42 - (-66) - (-50) + 79$

8) $26 - 19 + 57 + (-82)$

Find each product.

9) $(7)(-2)(-2)$

10) $(-6)(-1)(-8)$

Find each quotient.

11) $\frac{\frac{2}{3}}{\frac{7}{10}}$

12) $\frac{5\frac{9}{10}}{\frac{3}{2}}$

Simplify each expression.

13) $-7x - 7(3x + 3)$

14) $-2(x - 5) + 3$

Solve each equation.

15) $-49r = -343$

16) $-2511 = 27k$

17) $17 = 15 + \frac{x}{6}$

18) $\frac{-13 + a}{45} = -1$

$$19) -2 + 7(r - 6) = -8r - 11(-2r + 11)$$

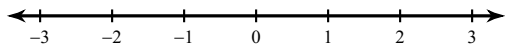
$$20) 8(-7b - 5) = 6(-6b + 11) - 6$$

$$21) |x + 9| = 16$$

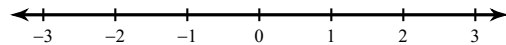
$$22) |4v| = 36$$

Draw a graph for each inequality.

$$23) -p \geq 1\frac{1}{2}$$

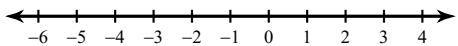


$$24) -n > 2$$

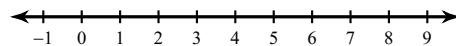


Solve each inequality and graph its solution.

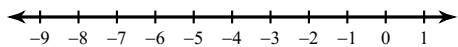
$$25) a - (-78) \geq 79$$



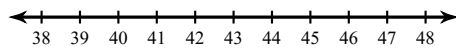
$$26) -14 + v < -9$$



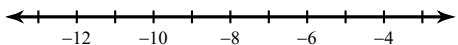
$$27) 13 + 10k \leq -17$$



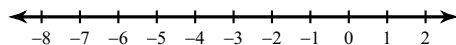
$$28) \frac{n}{40} + 11 > 12$$



$$29) 4(1 + x) < 6x + 16$$

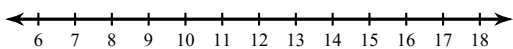


$$30) -7(2x + 7) < 7x + 14$$

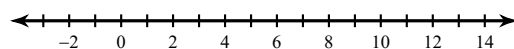


Solve each compound inequality and graph its solution.

$$31) 4 + a \geq 13 \text{ and } a + 6 \leq 16$$

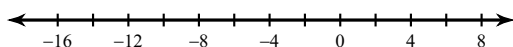


$$32) -4v < -36 \text{ or } v - 6 < -5$$

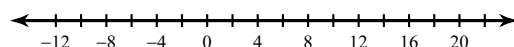


Solve each inequality and graph its solution.

$$33) |-10 - 2x| \geq 18$$



$$34) |2a - 10| > 26$$



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

35) $0 = 2y + 6$

36) $4y = -x$

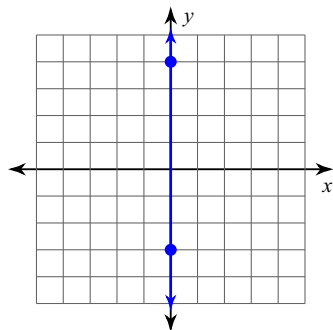
Find the slope of the line through each pair of points.

37) $(-9, 17), (-11, -11)$

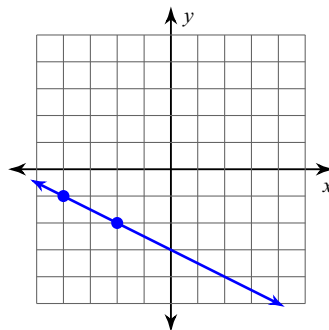
38) $(-16, -4), (0, -4)$

Find the slope of each line.

39)

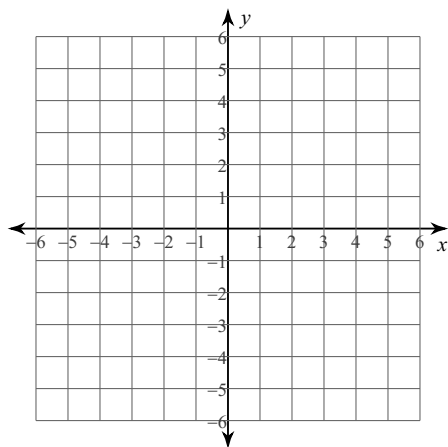


40)

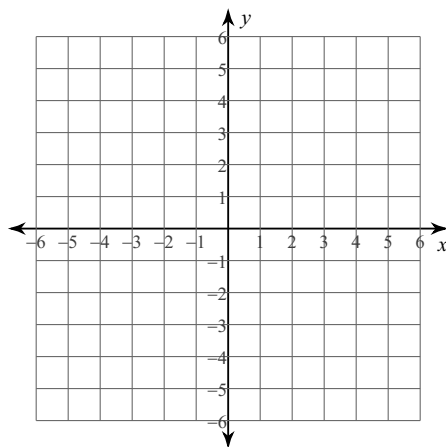


Sketch the graph of each line.

41) $x + 3y = -9$



42) $3x - 4y = 20$



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

43) through: $(3, -1)$ and $(1, 1)$

44) through: $(-3, -4)$ and $(0, 4)$

Solve each system by graphing.

$$45) \quad y = \frac{2}{3}x - 4$$
$$y = -\frac{5}{3}x + 3$$

$$46) \quad y = -\frac{1}{3}x + 4$$
$$y = \frac{2}{3}x + 1$$

Solve each system by elimination.

$$47) \quad 5x + 6y = -6$$
$$-15x - 5y = 5$$

$$48) \quad 7x - 10y = -10$$
$$-10x + 5y = 5$$

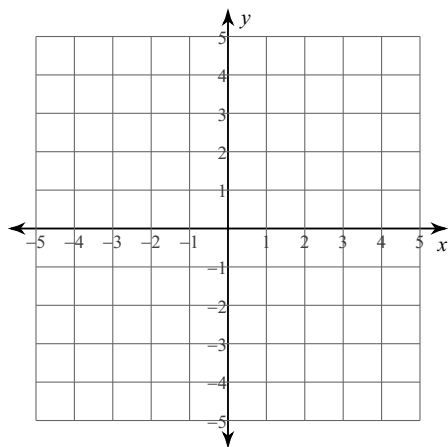
Solve each system by substitution.

$$49) \quad -5x + y = 14$$
$$-15x + 3y = 42$$

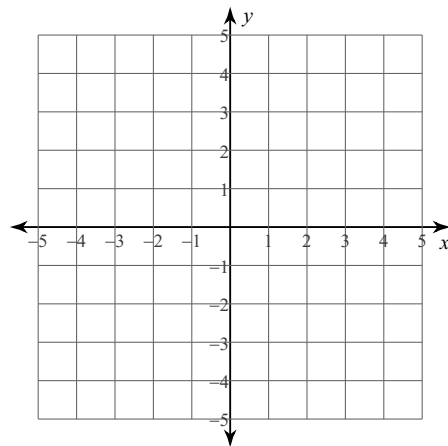
$$50) \quad 6x - 7y = -11$$
$$2x + y = -7$$

Sketch the solution to each system of inequalities.

$$51) \quad y < -x + 2$$
$$y < 2x - 1$$

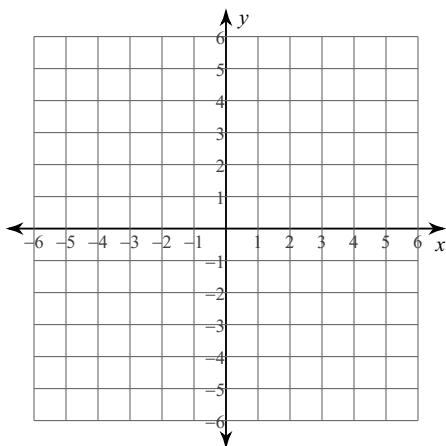


$$52) \quad y > -\frac{1}{2}x + 3$$
$$y \geq \frac{1}{2}x + 1$$



Sketch the graph of each linear inequality.

53) $6x + 5y > -15$



54) $6x - 5y \geq 25$

