

## Summer Work - 2018

**Solve each equation. NO Calculator Allowed!**

1)  $19 = \frac{p}{17}$

2)  $-4 = a + 16$

3)  $k + 3 = -1$

4)  $150 = -15v$

5)  $-7 - 4x + 6 = 11$

6)  $\frac{13}{6} = -\frac{7}{3}v + 3v$

7)  $-3.78 = -2.9n + 7.1n$

8)  $-144 = 8(5 - 6x) + 2x$

$$9) -32 - n = -7(n + 8)$$

$$10) -34 - 5b = -5(b - 3)$$

$$11) 61 = -5(1 + 6m) - 8(8 - 7m)$$

$$12) 7 + 2n - 5n = -4(7n + 2) + 5(4n + 2)$$

**Solve each proportion. NO Calculator Allowed!**

$$13) \frac{8}{2} = \frac{v}{10}$$

$$14) \frac{4}{n-2} = \frac{5}{9}$$

$$15) \frac{10}{8} = \frac{10p}{p+5}$$

$$16) \frac{a+5}{a-8} = \frac{10}{7}$$

**Solve each equation. NO Calculator Allowed!**

17)  $|a| = 3$

18)  $-6|n| = -30$

19)  $3 - 10|p| = -57$

20)  $|2 + x| = -6$

21)  $\frac{|-7n|}{3} = 4$

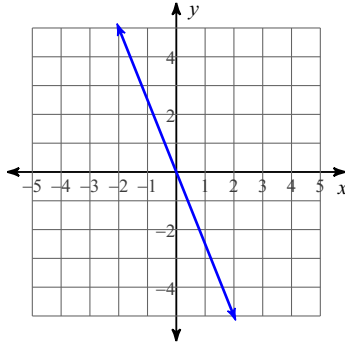
22)  $4 + 2|p - 9| = 24$

23)  $|9 + 4x| = 0$

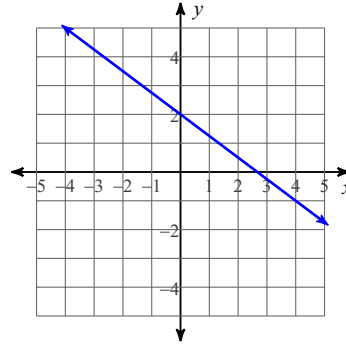
24)  $5|-7n + 2| - 3 = -3$

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

25)



26)



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

27) through:  $(4, -2)$ , slope  $= -\frac{5}{9}$

28) through:  $(-4, -1)$ , slope  $= -\frac{3}{4}$

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

29) through:  $(3, -3)$  and  $(4, -3)$

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

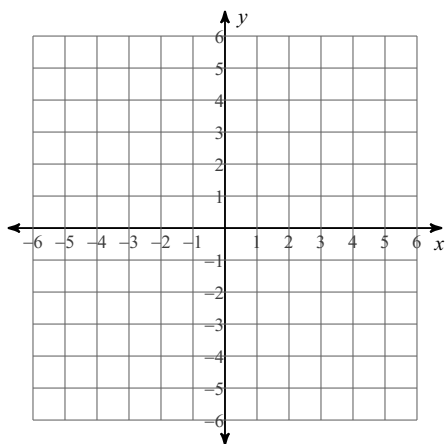
Write the slope-intercept form of the equation of the line described.

31) through:  $(-5, -4)$ , parallel to  $y = 5x + 2$

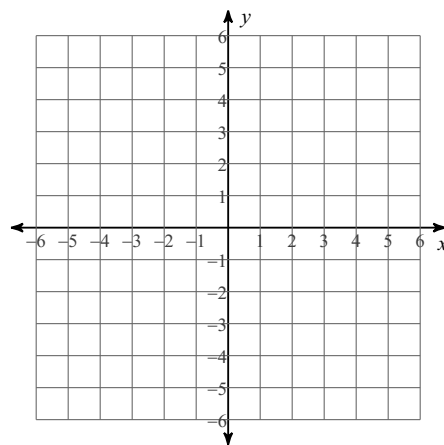
32) through:  $(-4, 2)$ , perp. to  $y = 4x - 2$

Sketch the graph of each linear inequality.

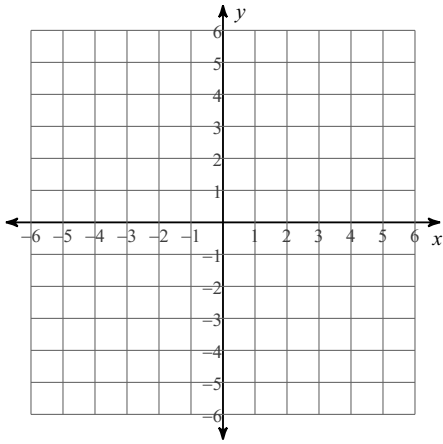
33)  $x < -5$



34)  $y \geq \frac{4}{3}x - 1$

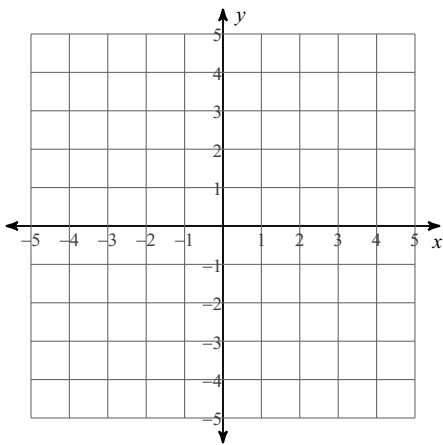


35)  $y < -2x + 4$

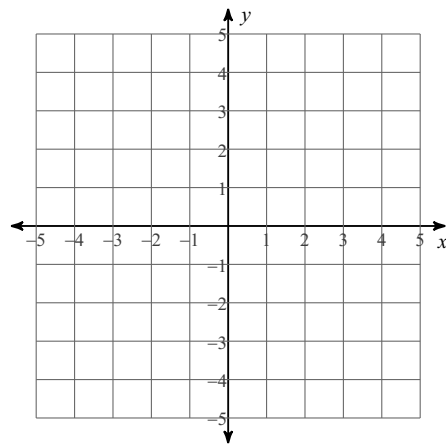


**Solve each system by graphing.**

36)  $y = 5x - 3$   
 $y = -x + 3$



37)  $2x - y = -1$   
 $x + 2y = -8$



**Solve each system by substitution.**

38)  $2x + y = -1$   
 $-8x + 6y = -6$

39)  $-6x + 2y = 24$   
 $x - 8y = -4$

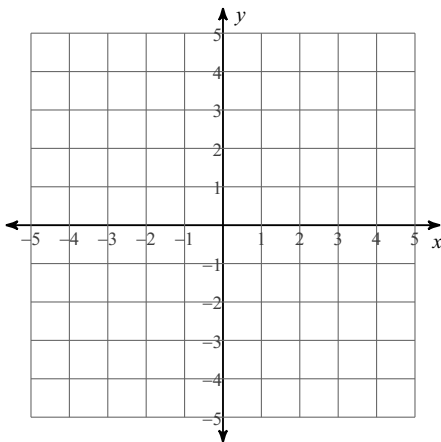
**Solve each system by elimination.**

40)  $-x + y = 13$   
 $7x + 6y = 13$

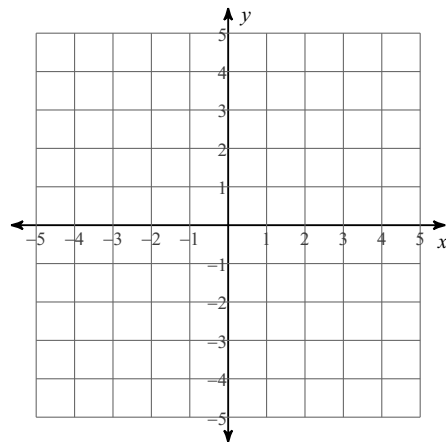
41)  $x - 2y = 7$   
 $7x - 10y = 21$

**Sketch the solution to each system of inequalities.**

42)  $y > 3x - 1$   
 $y < -x + 3$



43)  $y \geq 3x - 2$   
 $y < -x + 2$



**Simplify. Your answer should contain only positive exponents.**

44)  $-3 \cdot (-3)^2$

45)  $(-4)^{-2} \cdot (-4)^0$

46)  $3n^4 \cdot 4mn$

47)  $3x^4y^3 \cdot -3x^2$

48)  $(-2x^4 \cdot x^3y^4)^3$

49)  $(m^4 \cdot 2n^4)^{-1}$

50)  $-a^4b^0 \cdot (2a^2b^2)^4 \cdot -2a^3$

51)  $(-a^3b^0)^2 \cdot -2a^4b^4 \cdot a^2b^2$

52)  $\frac{-3yx^{-2}}{-xy^3}$

53)  $\frac{-3x^{-4}y^{-1}}{-3x^2y^{-4}}$

54)  $\left(\frac{-x^0y^3}{-2x}\right)^3$

55)  $\frac{ba^{-1}}{(2a^3b^{-3})^3}$

**Write each number in scientific notation. NO Calculator Allowed!**

56) 4.69

57) 210

**Write each number in standard notation. NO Calculator Allowed!**

58)  $0.74 \times 10^{-3}$

59)  $9.49 \times 10^{-4}$



**Name each polynomial by degree and number of terms.**

60)  $p^5 + 4p - 6p^2 - 5p^3$

61)  $-2n^5 + 6 + 2n^3 - 4n^4$

62)  $-5n^4$

63)  $10n^5 - 9n + 7$

**Simplify each expression. NO Calculator Allowed!**

64)  $(-7m^3 - 7m^2 - 3m^4) - (-8m^4 - 5m^3)$

65)  $(-2 - 7b + 3b^4) + (8b - 5b^4)$

66)  $(-6 - 2a^3 + 2a^2) + (3 + 6a^2 + 4a^3)$

67)  $(-8v^3 - 6 - 5v^4) + (-v^3 + 7v^4 - 2)$

68)  $(1 - 8x) + (4 - 2x - 3x^4)$

69)  $(7v - 3v^3) - (2v^4 + 8v + 7v^3)$

**Divide.**

70)  $(a^2 - 4a + 5) \div (a - 2)$

71)  $(x^2 + 14x + 45) \div (x + 6)$

**Find each product.**

72)  $3(5m^2 - 6m + 5)$

73)  $(5m - 5)(m - 6)$

74)  $(4n - 3)(8n - 4)$

75)  $(6b + 2)(8b^2 - 8b - 3)$

76)  $(2v - 8)^2$

77)  $(7x + 2)^2$