

Geometry Summer Homework

Date _____ Period _____

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

1) $(11, 19), (-17, 9)$

2) $(1, 2), (5, 12)$

3) $(18, 4), (-8, -6)$

4) $(0, -18), (15, -20)$

5) $(16, -10), (-13, -8)$

6) $(14, -14), (-13, 19)$

Solve each equation.

7) $\frac{b}{13} = 18$

8) $-\frac{13}{14} = \frac{m}{14}$

9) $7 + a = 24$

10) $\frac{a}{4} = -4$

11) $8(-5 + 5v) = -160$

12) $3n - 7(-3n - 3) = 141$

13) $150 = -3(6x - 8)$

14) $-4 - 3x = -(8 + x)$

15) $-6(3n + 7) - n = 4n + 4$

16) $3 + 7p = 3(2p + 1) - 2$

17) $-4 = \frac{-5 + m}{2}$

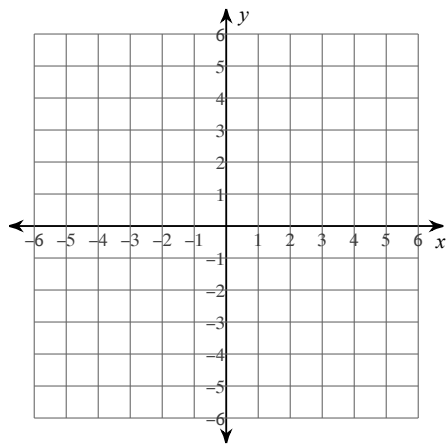
18) $-10 - 5b = -35$

19) $-71 = 5 + 4n$

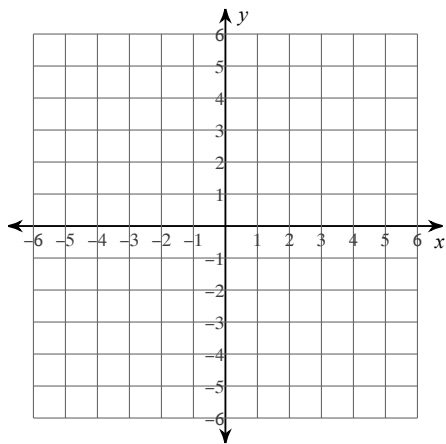
20) $-1 = \frac{2 + b}{14}$

Sketch the graph of each line.

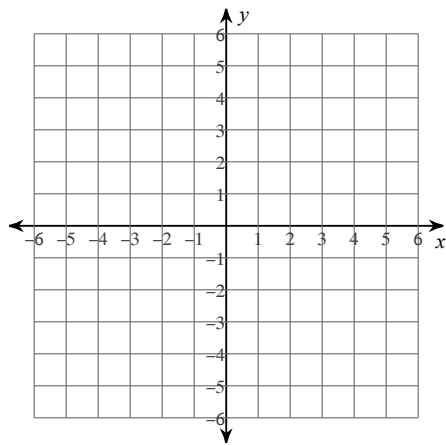
21) $y = -3x + 2$



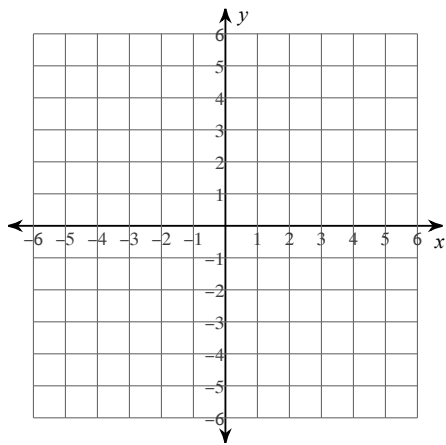
22) $y = -2x + 5$



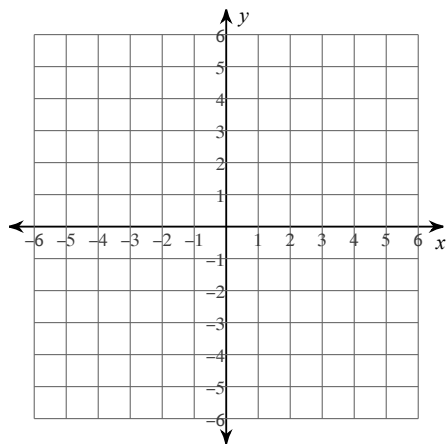
23) $y = -9x + 4$



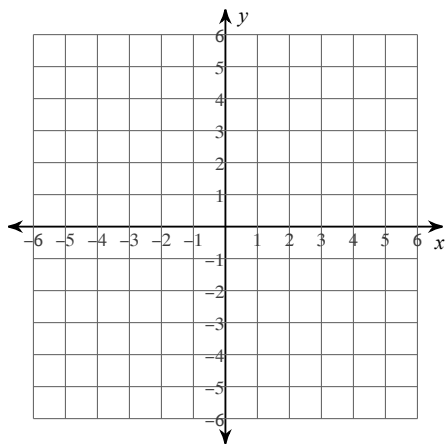
24) $2x + y = -3$



25) $7x - y = 4$



26) $x + y = 0$



Find each product.

27) $(5n + 4)(n - 1)$

28) $(5r + 2)(r + 4)$

29) $(x - 7)(7x - 6)$

30) $(4p + 2)(5p - 4)$

Evaluate each expression.

31) $(6 - 4)^2$

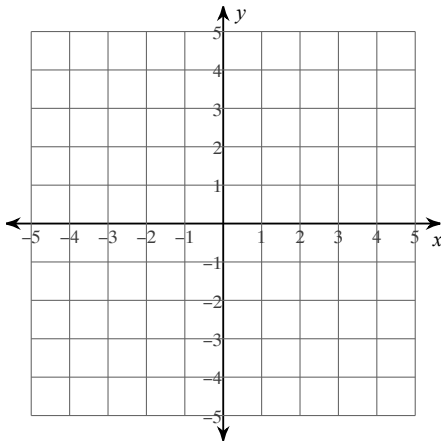
32) $(4 - 3)^2$

33) $6 - (3 - 2)$

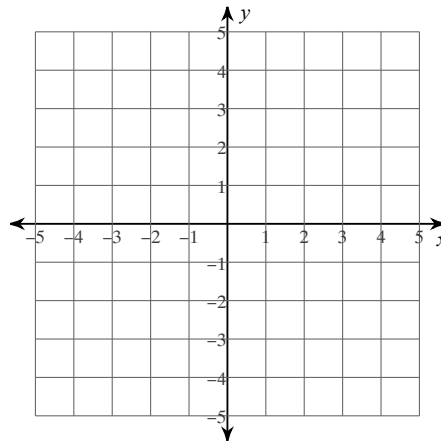
34) $(16 - 1) \div 3$

Solve each system by graphing.

35) $y = x + 1$
 $y = \frac{1}{4}x - 2$



36) $y = \frac{5}{4}x + 2$
 $y = \frac{5}{4}x - 2$



Solve each system by substitution.

37) $y = -8x + 24$
 $-x - 3y = 20$

38) $-7x + 5y = 0$
 $y = -3x + 22$

39) $x + 6y = 12$
 $-x + 2y = -4$

40) $7x + 2y = -24$
 $-5x + y = 5$

Solve each system by elimination.

$$\begin{aligned} 41) \quad & 4x - 6y = 10 \\ & -6x + 6y = -24 \end{aligned}$$

$$\begin{aligned} 42) \quad & -x - 3y = 5 \\ & x + 4y = -4 \end{aligned}$$

$$\begin{aligned} 43) \quad & 8x - 4y = -8 \\ & -16x + 9y = 12 \end{aligned}$$

$$\begin{aligned} 44) \quad & 10x - 10y = 10 \\ & 7x + 2y = 7 \end{aligned}$$

Factor the common factor out of each expression.

$$45) \quad 21b^3 - 21b + 18$$

$$46) \quad 72r^8 + 32r^7 + 72r^6$$

$$47) \quad 14m^5 + 28m^3 - 7m^2 + 35m$$

$$48) \quad 42k^4 - 56k^3 + 21k^2 + 70k$$

Factor each completely.

$$49) \quad v^2 + 7v$$

$$50) \quad n^2 + 9n + 14$$

$$51) \quad p^2 + 3p - 10$$

$$52) \quad k^2 - k - 20$$

Simplify. Your answer should contain only positive exponents.

$$53) \quad 3b^4 \cdot 4ab^3$$

$$54) \quad 3yx^4 \cdot x^4$$

$$55) \quad 2y^3 \cdot 2y$$

$$56) \quad (2x^2y^4)^2$$

$$57) \quad (ab^3)^4$$

$$58) \quad (3x^4)^3$$

$$59) \quad \frac{3x^2y^3}{3x^4y^2}$$

$$60) \quad \frac{2uv}{vu^2}$$

$$61) \quad \frac{3y^4}{x^2}$$