

## Summer Review Packet

Solve each equation by factoring.

1)  $(b + 5)(b - 8) = 0$

2)  $(m + 7)(4m - 3) = 0$

3)  $n^2 = n + 30$

4)  $x^2 = x + 2$

5)  $v^2 - 16 = 0$

6)  $x^2 + 25 = -10x$

7)  $5k^2 = -14k + 24$

8)  $7a^2 - 5 = -34a$

9)  $5v^2 + 41v = -42$

10)  $3n^2 - 35 = -8n$

Factor the common factor out of each expression.

11)  $6x^2 + 6$

12)  $30m + 6$

13)  $-8k^5h - 48kj^2 + 72k^2j$

14)  $-9p^4qr^2 + 9p^2qr^4 - 9p^2qr^2$

**Solve each system by elimination.**

$$\begin{aligned} 15) \quad & 5x - 3y = -19 \\ & x - 12y = 19 \end{aligned}$$

$$\begin{aligned} 16) \quad & -10x - 8y = -30 \\ & 20x + 2y = -10 \end{aligned}$$

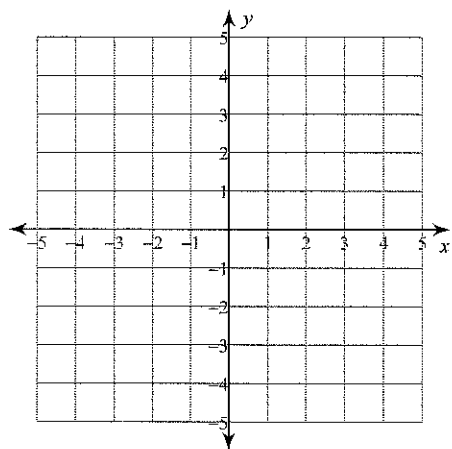
**Solve each system by substitution.**

$$\begin{aligned} 17) \quad & -5x + 7y = 11 \\ & x - 5y = -13 \end{aligned}$$

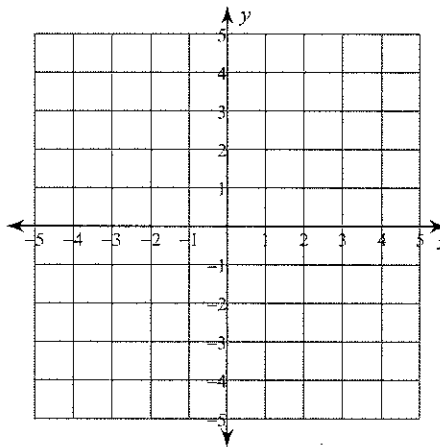
$$\begin{aligned} 18) \quad & -7x + 2y = -7 \\ & -2x + y = -5 \end{aligned}$$

**Solve each system by graphing.**

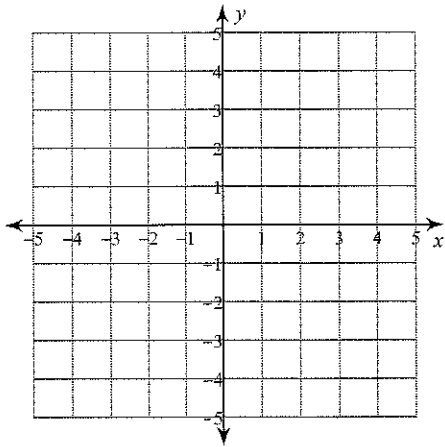
$$\begin{aligned} 19) \quad & y = \frac{1}{4}x - 3 \\ & y = \frac{1}{4}x + 4 \end{aligned}$$



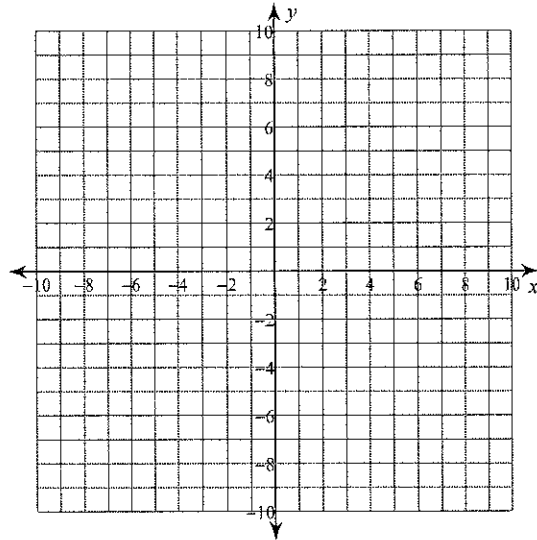
$$\begin{aligned} 20) \quad & y = 2x + 3 \\ & y = -\frac{1}{3}x - 4 \end{aligned}$$



$$21) \begin{aligned} y &= x - 3 \\ y &= 6x + 2 \end{aligned}$$



$$22) \begin{aligned} 5x + 2y &= 2 \\ x - 2y &= 10 \end{aligned}$$



**Simplify each expression.**

$$23) (3x^2 + 3x - 5) + (6x^2 - 8x + 5)$$

$$24) (7x + 5x^4 - x^3) - (7x^3 + 8x - 4x^4)$$

$$25) (8n^4 - n^2 - 7n^3) - (7n^3 - 8n^4 - 5n)$$

$$26) (x^4 - 3x^2 - 2x^3) + (2x - 5x^2 + 8x^4)$$

**Evaluate each expression.**

$$27) \left(-\frac{11}{6}\right) + \left(-2\frac{1}{2}\right)$$

$$28) 2 + \left(-\frac{4}{3}\right)$$

$$29) \left(-\frac{3}{8}\right) + \left(-3\frac{5}{8}\right)$$

$$30) \left(-2\frac{3}{4}\right) + \left(-\frac{5}{3}\right)$$

**Simplify each expression.**

31)  $9n + 10n$

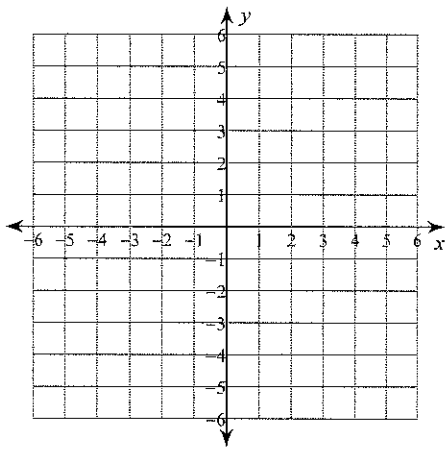
32)  $6a - 10 - 10$

33)  $-7n - 8n$

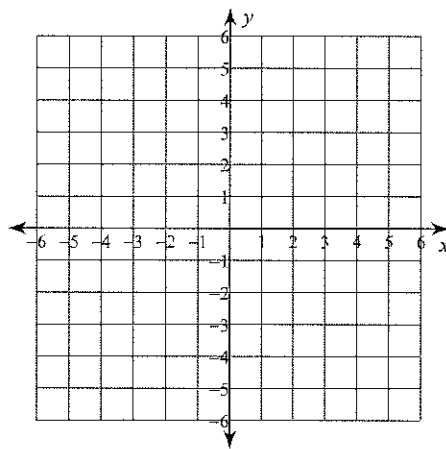
34)  $1 + 9v - 1$

**Sketch the graph of each line.**

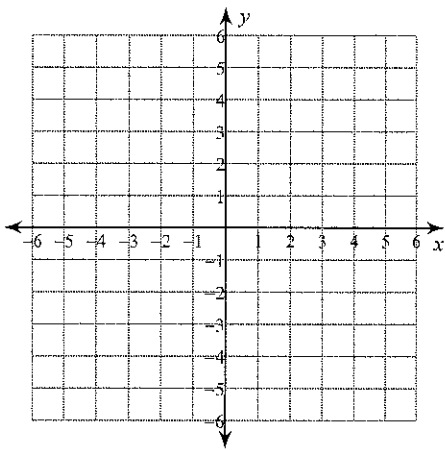
35)  $x - 2y = -6$



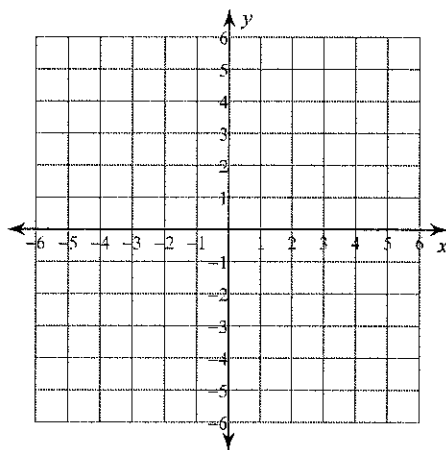
36)  $3x + 4y = 4$



37)  $y = 0$

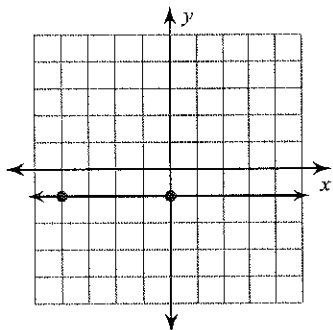


38)  $y = 3$

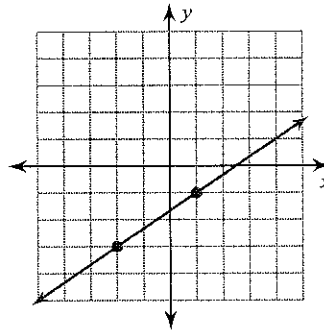


Find the slope of each line.

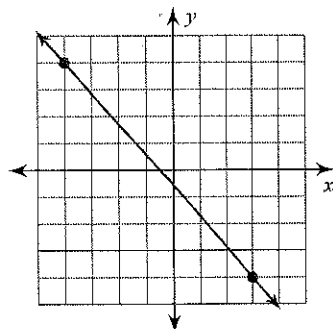
39)



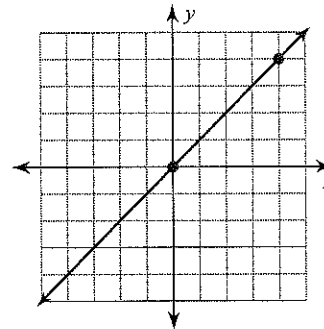
40)



41)

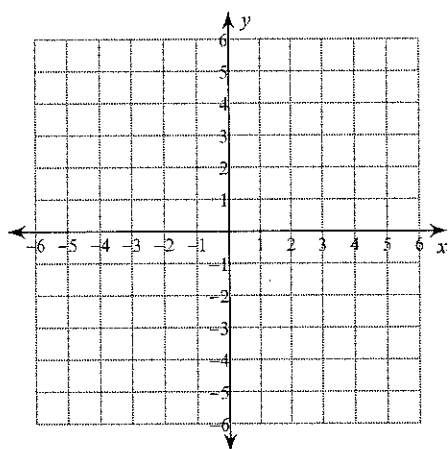


42)

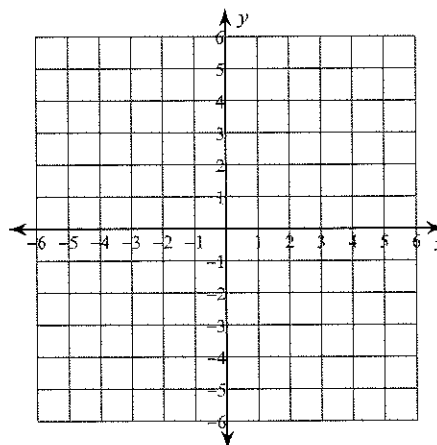


Sketch the graph of each linear inequality.

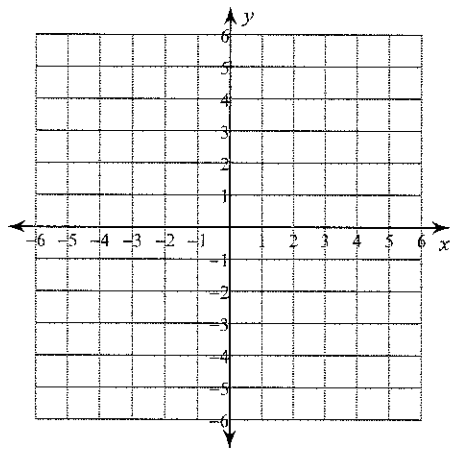
43)  $y \geq -\frac{1}{2}x - 1$



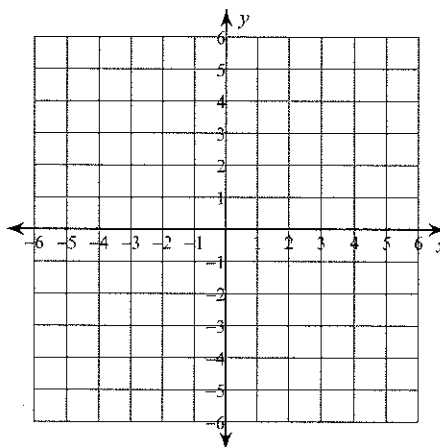
44)  $x < 2$



45)  $y > 6x - 2$



46)  $y > -\frac{4}{5}x + 4$



**Solve each proportion.**

47)  $\frac{8}{4} = \frac{x}{10}$

48)  $\frac{8}{10} = \frac{10}{b}$

49)  $\frac{8}{5} = \frac{n}{9}$

50)  $\frac{n}{6} = \frac{7}{10}$

**Find each product.**

51)  $(-2)\left(\frac{3}{2}\right)$

52)  $\left(2\frac{6}{7}\right)\left(-\frac{7}{4}\right)$

53)  $\left(-2\frac{1}{6}\right)\left(-\frac{7}{5}\right)$

54)  $\left(5\frac{3}{10}\right)\left(-\frac{1}{3}\right)$

55)  $(-4.7)(6.7)$

56)  $(-5.3)(-5.1)$

**Simplify each expression.**

57)  $8(-1 + 3n)$

58)  $-(10m - 6)$

59)  $-(a + 1)$

60)  $-8 + 3(4v - 7)$

61)  $3(n - 6) - 7n$

62)  $-(9 - 10x) - 5$

**Solve each equation.**

63)  $18 + k = 36$

64)  $-19n = -285$

65)  $-3 + r = 5$

66)  $13 = \frac{n}{14}$

67)  $0 = 9k$

68)  $-2(4 + 5n) = -88$

69)  $-4x - 6(x + 1) = -86$

70)  $-3 + 5(1 - 8x) = -278$

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

71)  $3m^2 \cdot 3m$

72)  $x^3 \cdot 2x^0$

73)  $2x^0 \cdot 3x$

74)  $b \cdot 2b^3 \cdot 2b^2$

75)  $3x^3 \cdot 3x$

76)  $3m^2 \cdot m^3$

77)  $\frac{3x}{2x^2 \cdot 2x}$

78)  $\frac{3n \cdot 3n^3}{2n}$

79)  $\frac{2m^3}{m \cdot 3m}$

80)  $\frac{2n}{n \cdot n}$