

Summer Review from Algebra I

© 2012 Kuta Software LLC. All rights reserved.

Evaluate each expression.

1) $6 \times (11 - 1 + 8) \div 6$

2) $3 + 5 - 3 + 3 - 5$

3) $(6 - 5)(5 + 5 \times 4)$

Evaluate each using the values given.

4) $p(q + m + p)$; use $m = 1$, $p = 3$, and $q = 5$

5) $q^2(m + m)$; use $m = 1$, and $q = 3$

6) $p + r + q - q$; use $p = 2$, $q = 1$, and $r = 4$

Simplify each expression.

7) $4 - 5(1 - 4k)$

8) $-5(1 - 6v) - 4v$

9) $4m - 9(6m + 10)$

Solve each equation.

10) $10 = -2n - 3n$

11) $8 = 3x - 5 - 8$

12) $-4x + 5x = 6$

13) $2 + 3(1 + 4m) = 101$

14) $306 = 6(7x + 2)$

15) $-5 + 5(6 - 5x) = 150$

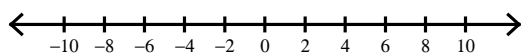
16) $|n - 2| = 3$

17) $|x + 3| = 11$

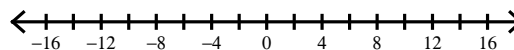
18) $|-9x| = 63$

Solve each inequality and graph its solution.

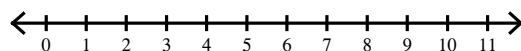
19) $|-8x| \geq 64$



20) $\left| \frac{k}{3} \right| < 5$



21) $|a - 6| > 2$

**Simplify.**

22) $3xy^2 \cdot -y^2$

23) $4x \cdot -4x^4y^3$

24) $-2yx^3 \cdot -2x$

25) $(y^4)^4$

26) $(2ab^3)^4$

27) $(3yx^2)^3$

28) $\frac{b}{2b^2}$

29) $\frac{3v}{4v^3}$

30) $\frac{3n}{2n^3}$

Factor each completely.

31) $16n^2 - 25$

32) $4k^2 - 1$

33) $25k^2 - 16$

34) $x^3 + 8x^2 + 15x$

35) $6a^2 - 18a - 324$

36) $3n^2 - 24n + 45$

37) $k^4 + 13k^3 + 40k^2$

38) $6a^2 - 84a + 294$

39) $r^2 - r - 12$

40) $b^3 + 5b^2 + 6b$

41) $4p^2 - 56p + 196$

42) $a^2 + 6a - 7$

43) $6k^2 + 84k + 240$

Evaluate each function.

44) $w(t) = 3t - 4$; Find $w(-3)$

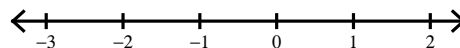
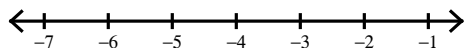
45) $g(a) = a + 3$; Find $g(-10)$

46) $p(n) = 2n + 3$; Find $p(1)$

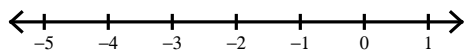
Solve each inequality and graph its solution.

47) $-3 - 7a - 8 \leq 24$

48) $6 - 4p - 6p \leq 6$

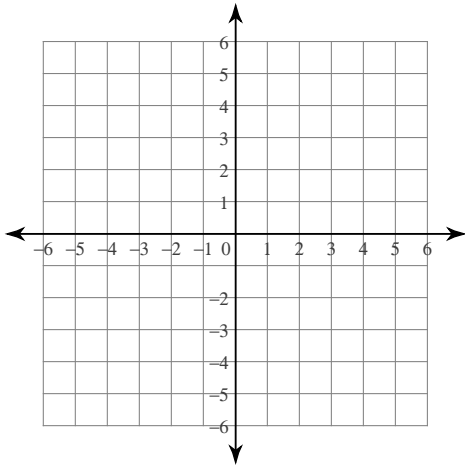


49) $-a + 3a < -6$

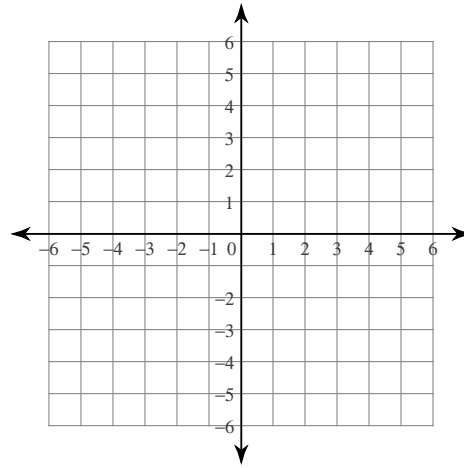


Sketch the graph of each line.

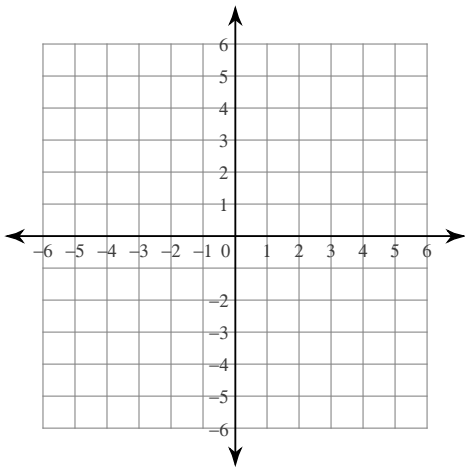
50) $x - 3y = 12$



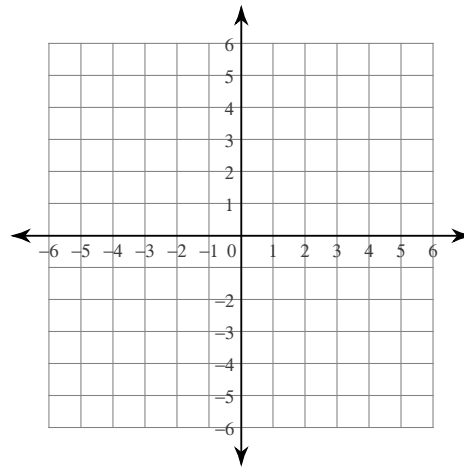
51) $5x - 3y = 12$



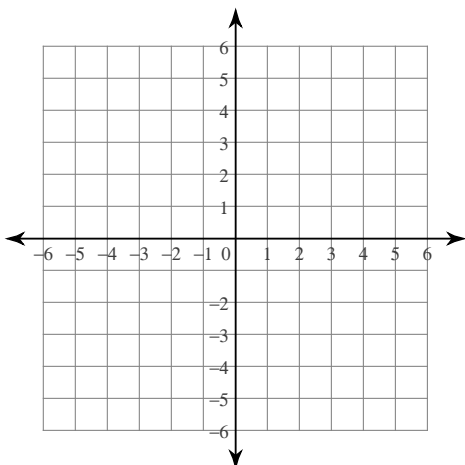
52) $x + 5y = -25$



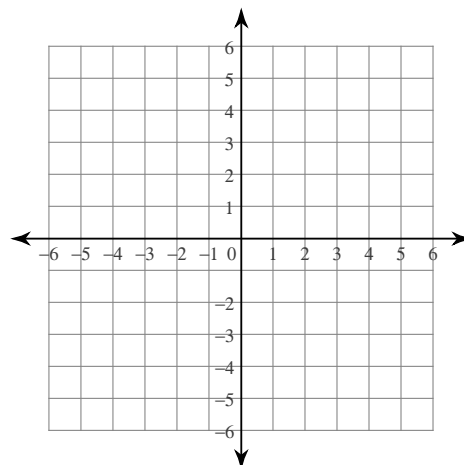
53) $y = \frac{6}{5}x - 3$



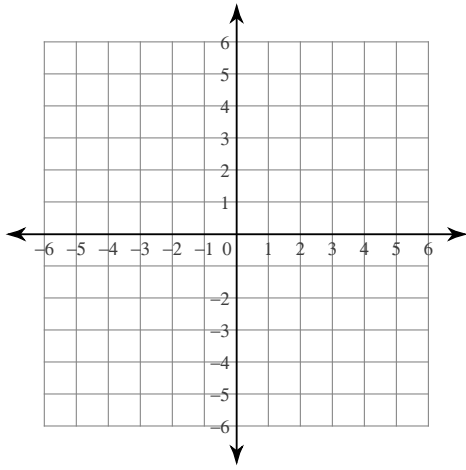
54) $y = \frac{1}{3}x + 4$



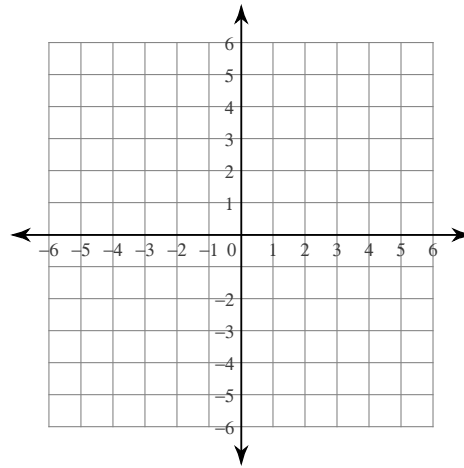
55) $y = \frac{3}{5}x - 2$



56) $y = x + 5$



57) $y = \frac{6}{5}x + 5$



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

58) $-9x + 16 = -4y$

59) $-1 = -\frac{1}{2}y$

60) $y + 3x - 2 = 0$

Find the slope of a line through the two points.

61) through: $(4, 1)$ and $(3, -5)$

62) through: $(-4, 5)$ and $(4, -5)$

63) through: $(-1, -2)$ and $(3, 1)$

Simplify.

64) $\sqrt{75n}$

65) $\sqrt{72r}$

66) $\sqrt{252m^4}$

Solve each system by substitution.

67) $8x + 3y = -1$
 $y = x + 7$

68) $-x - y = 5$
 $y = x + 1$

69) $y = -8x - 21$
 $-2x + 2y = 12$

70) $y = 3x - 13$
 $8x - 4y = 24$

Solve each system by elimination.

71) $-4x - 8y = 4$
 $4x - 5y = 22$

72) $-2x + 5y = 8$
 $-x - 5y = -26$

73) $-2x + y = -9$
 $4x - y = 15$

74) $2x - 3y = -10$
 $2x - y = 2$

75) $2x + 9y = -12$
 $6x + 9y = 0$