



## Summer Math Skills Review For Integrated 3

Name: \_\_\_\_\_

**Solve.**

1.  $5x + 4 = 19$

2.  $53 - p = 11$

3.  $3(k - 2) = k + 4$

4.  $\frac{3}{4}y = \frac{2}{3}y + 5$

5.  $8g - 4 = 5(2g + 1)$

6.  $15 - 6n + 2 = 4n - 1$

7.  $\frac{-c + 14}{5} > 8$

8.  $7 \leq 4w + 3 \leq 19$

9.  $|d| - 5 = -3$

10.  $|m + 6| = 11$

11.  $|2a - 1| < 5$

12.  $4x^2 - 1 = 63$

**Name the sets of numbers to which each belongs.**  
(choose from: real, rational, irrational, integer, whole, natural)

13.  $-43$

14.  $\pi$

15.  $0$

16.  $\frac{3}{8}$

**Evaluate if:  $a = -5$ ,  $b = \frac{1}{4}$ ,  $c = \frac{1}{2}$ , and  $d = 4$ .**

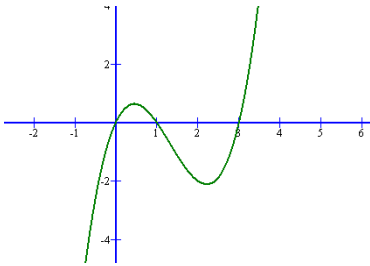
17.  $a + 2b - c$

18.  $b + 3(a + d)^3$

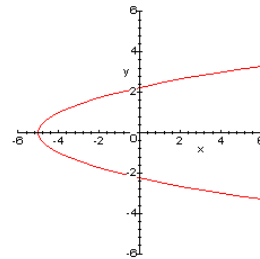
**Determine whether each relation is a function.**

19.  $(5, 4), (-2, 6), (0, -8), (-2, 1)$

20.



21.



**Find the mean, median, mode, and range for each set of data.**

22.  $\{2, 8, 12, 13, 15\}$

23.  $\{-5, -4, 3, -10, -4, -7, 12\}$

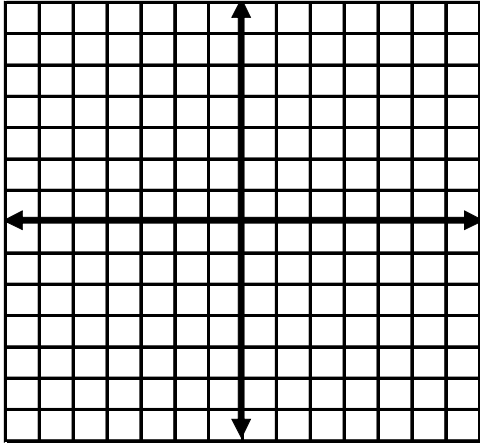
24. What is the slope of the line passing through (5,-3) and (9,-4)?
25. What is the slope of a horizontal line?
26. What is the slope of a vertical line?
27. How are the slope of parallel lines related?
28. How are the slopes of perpendicular lines related?

**Write the equation of a line that satisfies the following conditions.**

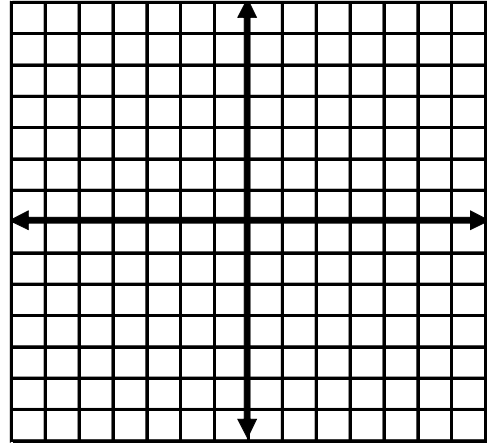
29. slope = 9; y-intercept = 17
30. slope =  $\frac{1}{3}$ ; passes through (-9, 4)
31. passes through (-1, -7) and (1, 3)
32. perpendicular to  $y = 4x + 3$ ; passes through (8,5).

**Graph on a coordinate plane.**

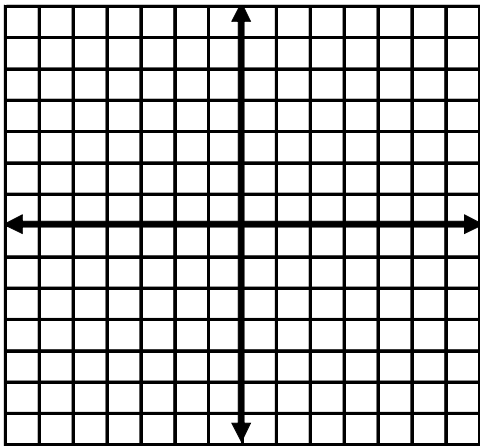
33.  $y = 5x - 3$



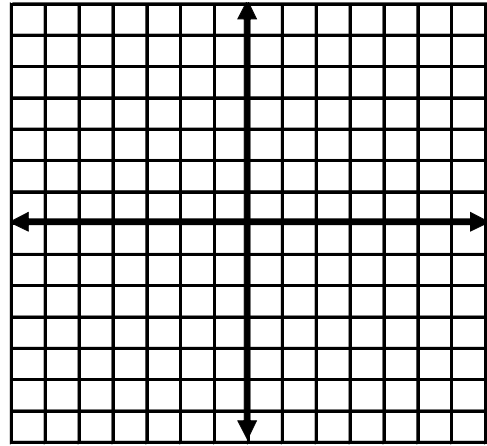
34.  $y = -\frac{1}{4}x + 2$



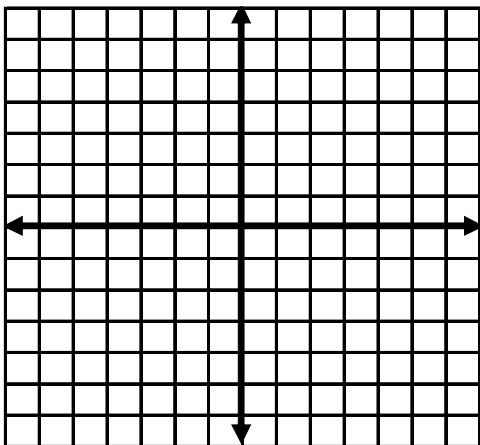
35.  $x = -6$



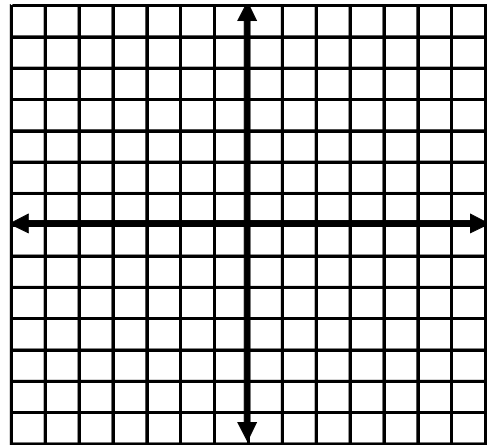
36.  $3x - 2y = -12$



37.  $y = 2x^2 - 3$



38.  $y > -x^2 + 4$



**Solve each system of equations.**

39. 
$$\begin{aligned} 2x - 4y &= 9 \\ 3x + 4y &= 1 \end{aligned}$$

40. 
$$\begin{aligned} x &= 4y - 10 \\ 5x + 3y &= -4 \end{aligned}$$

41. 
$$\begin{aligned} x &= -3y \\ 2x + 6y &= 5 \end{aligned}$$

42. 
$$\begin{aligned} 3x + 4y &= 28 \\ 5x - 3y &= -21 \end{aligned}$$

**Simplify. Answers should have only positive exponents.**

43.  $(2y)^3$

44.  $(-3c^2d^0)^4$

45.  $\frac{ab^4c^{-5}}{-2b^3}$

46.  $\frac{3x^{-2}}{x^{-1}}$

47.  $(x^4y^2)^2(x^3y)^4$

48.  $\frac{3x^3y^4}{9xy^5}$

**Find each product.**

49.  $5x^2(2x^2 - x)$

50.  $4t(t^2 + 7)$

51.  $(x + 3)(2x - 4)$

52.  $(5x - 2)(3x - 4)$

53.  $(2x^2 + 1)(x - 3)$

54.  $(3x + 8)^2$

**Factor each expression.**

55.  $6x^2 + 8$

56.  $8x^6 + 4x^4 - 2x^2$

57.  $x^2 - 2x - 24$

58.  $3y(y - 3) - 4(y - 3)$

59.  $x^2 - 5x + 4$

60.  $2x^2 + 8x + 6$

**Simplify.**

61.  $\sqrt{20}$

62.  $\sqrt{98}$

63.  $\sqrt{300}$

64.  $\sqrt{54}$

65.  $\sqrt{180}$

66.  $\frac{\sqrt{12}}{4}$

67.  $\frac{\sqrt{18}}{\sqrt{2}}$

68.  $(5\sqrt{3})^2$

69.  $(\sqrt{3} - 4)(\sqrt{3} + 2)$

70.  $\sqrt{\frac{9}{5}}$

71.  $4\sqrt{50} + \sqrt{32} - 6\sqrt{8}$

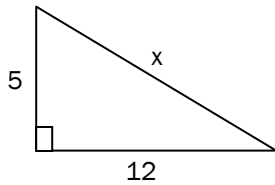
72.  $\sqrt{a^5 b^{12}}$

73. Find the distance between the following points:  $(-5, -2)$  and  $(3, -1)$ .

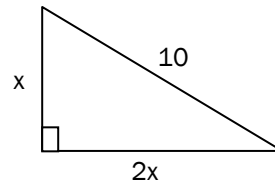
74. Find the midpoint of the following points:  $(6, -8)$  and  $(0, 4)$ .

**Find the value of  $x$  in each right triangle.**

75.



76.



**ADDITIONALLY,  
MEMORIZE VALUES THROUGH  $25^2$  AND  $5^3$  *WITHOUT* THE USE OF A CALCULATOR.**

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