

Live Oak High School
Summer Math Skills Review
for students going into Integrated Math 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. π

15. 0

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

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

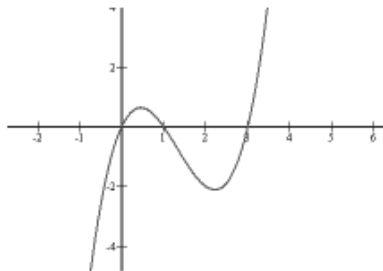
17. $a + 2b - c$

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

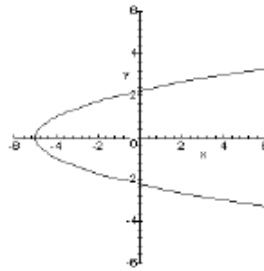
Determine whether each relation is a function.

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 slopes 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

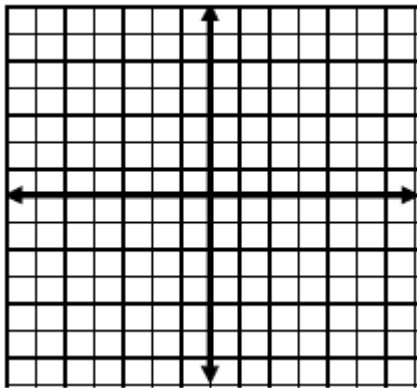
30. slope = $\frac{1}{3}$; passes through (-9, 4)

31. passes through (-1, -7) and (1, 3)

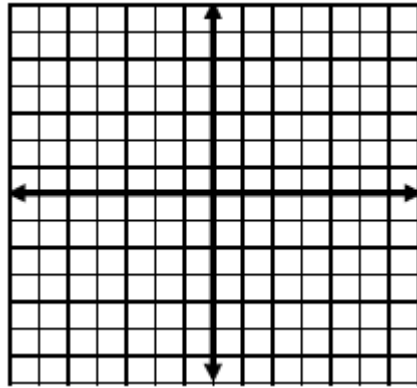
32. perpendicular to $y = 4x + 3$; passes through (8,5).

Graph on a coordinate plane.

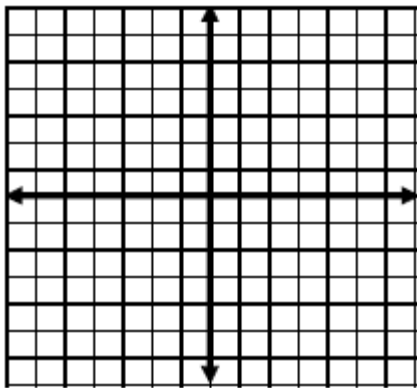
33. $y = 5x - 3$



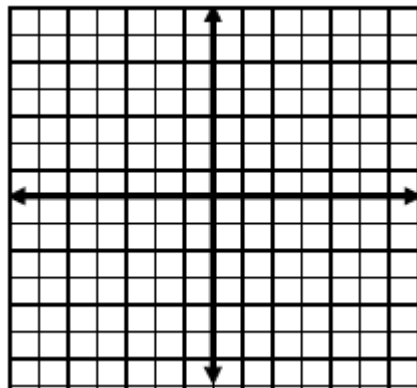
34. $y = -\frac{1}{4}x + 2$



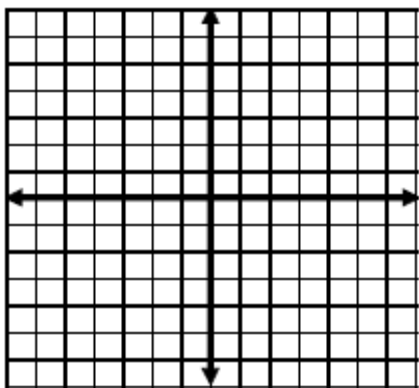
35. $x = -6$



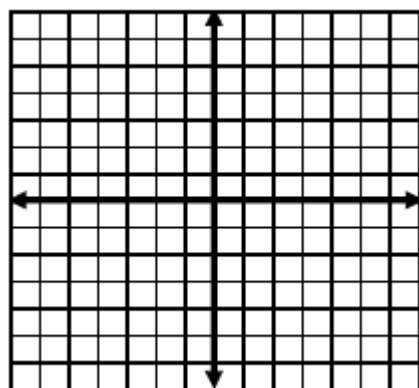
36. $y = x^2 - 3$



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



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



Solve each system of equations.

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

$$\begin{aligned} 40. \quad & x = 4y - 10 \\ & 5x + 3y = -2 \end{aligned}$$

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

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

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

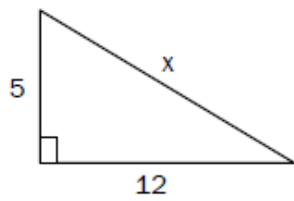
72. $\sqrt{a^5b^{12}}$

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

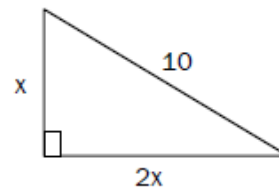
74. Find the midpoint of the following points: $(6, -8)$ and $(0, 4)$.

Find the value of x in each right triangle.

75.



76.



Additionally, memorize the values 1^2 through 25^2 , and 1^3 through 5^3