

Review Packet for Incoming Intermediate Algebra Honors Students

Name _____ Teacher _____

Evaluate each expression using order of operations

Given $a = 6$, $b = -3$, $c = 7$, and $d = 0$ evaluate the algebraic expression

1. $a + b + c$ 2. $a^2 + b^2$ 3. $a^2 - b^2$ 4. $-(a + b) - c$

5. $a^2 + b^2 + c^2$ 6. $b^2 + (c + a)^2$ 7. $-b^2$ 8. $(-b)^2$

9. $4b - 2a - c$ 10. $d(2a + 1)$ 11. $\frac{-2b + 4a - 3c}{d}$ 12. $|-a - c|$

Simplify the following

Simplify the following algebraic expressions

13. $4(x + y) + 7x$ 14. $x - y - (3x + y)$ 15. $(8x - 2) - (5x - 3)$

16. $-3(6 - 8m)$ 17. $(2 - a) + (4a - 9b + 2) - (1 - b)$

18. $\frac{-18x + 12}{4}$ 19. $\frac{32y + 24}{16}$

Solve each equation for the variable

20. $3x + 2 = 5$ 21. $-x + 9 = 3$ 22. $3x = 105$

23. $-3 - x = -5$ 24. $\frac{1}{3}x = 9$ 25. $4x + 8 = 40$

26. $15y + 31 = 61$ 27. $5(3x + 5) = 4x - 8$

Solve each inequality and graph the solution on a number line

31. $2x + 4 \leq 3x + 6$ 32. $4(1 - 5x) > 10x + 16$ 33. $2x + 4 < 2(1 + x)$

34. $7x + 12 - 3x > 4x + 1$

Graph each linear equation on graph paper using a table of values.

35. $y = x + 4$ 36. $y = 3x + 1$ 37. $y = -x$

38. $x + y = 3$

Write the function rule that represents the given sentence or situation

39. 8 less than one third of x is y
40. 12 more than the quotient of a number t and 7 is y
41. 10 more than 8 times a number a is b .
42. The price p of a large cheese pizza is \$7.95 plus \$ 0.75 for each topping t on the pizza.
43. The total fees f of a book club membership are \$ 10 per month m and a one- time administrative fee of \$4.75.

Evaluate the function

44. $f(x) = 2x - 3$, find $f(-1)$
45. $f(x) = 3x^2$, find $f(2)$
46. $f(x) = \frac{3+x}{9}$, find $f(0)$
47. The original price of a car is \$15,000. Find the percent of decrease if the sale price of that same car is \$ 13, 050 _____
48. A house originally had 1700 square feet but added an extra 255 square feet. What was the percent of increase? _____
49. The sale price of a television set is \$280 which represents 30% off the original price. What was the original price of the television? _____
50. A dress is on sale for 40% off the original price of \$60. As an additional bonus, there is another 60 % off the price of the dress. How much is the cost of the dress?