

1-1: Order of Operations and Evaluating Expressions

Name: _____
Algebra 1

Date: _____
Band: _____

LT#1: Simplify expressions involving exponents.
LT#2: Use the order of operations to evaluate expressions.

Simplify each expression.

1. 5^3

2. $\left(\frac{5}{6}\right)^2$

3. $(1 + 3)^2$

4. $\left(\frac{16}{2}\right) - 4(5)$

5. $4^4(5) + 3(11)$

6. $\left(\frac{27-12}{8-3}\right)^3$

7. $[4(5)]^3$

8. $\left(\frac{3(6)}{17-5}\right)^4$

Evaluate each expression for $s = 2$ and $t = 5$.

9. $s^3 + t^2$

10. $-4(s)^2 + t^3 \div 5$

11. $\left(\frac{s+2}{5t^2}\right)^2$

12. Every weekend, Morgan buys interesting clothes at her local thrift store then resells them on an auction website. If she bring \$150.00 and spends s , write an expression for how much change she has. Evaluate your expression for $s = \$27.13$ and $s = \$55.14$.

13. A bike rider is traveling at a speed of 15 feet per second. Write an expression for the distance the rider has traveled after s seconds. Make a table that records the distance for 3.0, 5.8, 11.1, and 14.0 seconds.

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Challenge!

14. Simplify: $4[11 - (55 - 3^5) \div 3]$

15. Evaluate: $-3[(w - 6)^2 + x]^2$; $w = 5, x = 6$

Simplify each expression.

16. $x^4(x) + 3(x)$

17. $(d^4)^4 + (4d)(5d)$

18. $\left(\frac{x^4}{x^2}\right)^2$

19. $x[(4x - x)^2 + 7]$

20. $5x[(8x \div 2)^3 - x]$

21. $h[11h - (12h - 9h^5) \div 3]$

Evaluate each expression for the given values of the variables.

22. $4k(k + 4k)^3 + 5 - d^4$; $d = 2, k = 4$ 23. $-3[(z - 6z)^2 + 4(g + 5g)]^2$; $z = 5, g = 6$

24. $7.5 \left[(l^2)^3 - \left(\frac{4n}{12n} \right)^2 \right]$; $l = -1, n = 9$ 25. $r[r^2 - (55 - s^5) - 3s^5]$; $r = -2, s = 8$