

2.5 Order of Operations

Recall

1. Perform all operations within grouping symbols: $()$, $\{ \}$, $[]$, $| |$, $\sqrt{\quad}$, $---$
2. Evaluate exponents
3. Multiply or Divide (in order from left to right)
4. Add or Subtract (in order from left to right)

Ex 1. Perform indicated operations.

a. $-36 \div 4 \cdot (-3)$

b. $(-2 - 2)^2 - 5(-7)$

c. $-6^2 - |7 - 16| - 3^3$

d. $-5|-4|^2 + (-3)(-2)^2$

e. $5 - 4[-6 + 5(-3 + 5)] \div 4$

f. $-3(24 - 28)^2 \div (54 - 57) \cdot 2$

$$\text{g. } -3 \cdot [25 - (11 - 8)^3 + 10] \div 6$$

$$\text{h. } -6^2 \div 3[24 - (8 - 11)^2 - 3]$$

$$\text{i. } \frac{8(-3) - (-4)(-6)}{-2 \cdot [-18 \div (-3 - 3)]}$$

$$\text{j. } \frac{-2(42 - 48)^2 \div (13 - 16)^2 \cdot 2}{-12 \cdot 3 \div (-9)}$$

Ex 2. Evaluate $b^2 - 4ac$ for $a = -4, b = -9, c = 3$. **Ex 3.** Evaluate $xy - yz^2$ for $x = 11, y = -2, z = -3$.

*** Finding Average**

$$\text{Average} = (\text{Sum of all the data}) \div (\text{Total number of data})$$

Ex 4. Find the average of the test scores: 91, 62, 76, 67, and 84.

Ex 5. Find the average of the temperatures: 15, - 1, - 11, - 14, - 16, -14, and - 1.