

Notes: Order of Operations with Integers, Decimals, and Fractions!

What classifies a value as an Integer?

What classifies a value as a Decimal?

What classifies a value as a Fraction?

Identify the following terms as an *Integer*, *Decimal*, or *Fraction*.

9 0.2 - 10 100.02 $\frac{16}{3}$ 100525 $-\frac{1}{6}$

Reviewing basic operations

Simplify the following expressions. Check with the calculator! Simplify your answer.

$10 - 15$ $10.5 - 15.6$ $\frac{1}{4} + \frac{1}{4}$ $\frac{3}{4} - \frac{5}{8}$ $5.7 + 10.253$

$\frac{2}{5} * \frac{1}{2}$ $-\frac{3}{2} \div \frac{3}{1}$ $\frac{\frac{1}{5}}{\frac{3}{5}}$ $5 \left(\frac{1}{3} \right) - \frac{5}{2}$ $\frac{1}{2} - \frac{5}{6} + \frac{1}{7} * \frac{5}{9} \div \frac{3}{6}$

Order of Operations

What is our order of operations?

Lets think about why we follow the order of operations. Choose your **first step** for each problem. Focus on explaining WHY we made that choice.

$$2(6 - 2) + 6$$

$$(5) + 9^2 - 11$$

$$-\frac{40}{12+3^2}$$

$$\nabla - \beta \left(\alpha + \varepsilon \left(\frac{\varphi}{\tau} + !^2 (\mathbf{N} - \Sigma)^{33} \right) - \mathbb{Q} \right)^{\Xi}$$

Order of Operations Examples

$$5 \times 3 \times 2$$

$$9 - 32 \div 4$$

$$5(10 - 1)$$

$$9 + 8 + 7 + 6(3 - 1)$$

$$9 + 8 + 7 + 6(3 - 1)^2$$

$$\frac{20}{(4 - (10 - 8))}$$

$$(-6 - 4) \times 49 \div 7$$

$$-4 + \frac{27}{2+3+2^2} + 3$$

$$\frac{8}{5-1} (3 + 6)^2 * 3$$

Here is a long Order of Operations Problem. Give it a shot!

$$\left(5 - (4 + 2)^2 - (4 - (10 \div 2))^2 \times 2\right) + (5 - (3 + 2))^2$$