

Order of Operations

What is it? - Rules that tell us what order we should do different mathematical operations.

- Ensures that everyone doing the same problem will get to the same solution.

- Very important for webwork to make sure what you write is what webwork understands.

P - Parentheses (brackets, braces)

E - Exponents

MD - Multiplication/division (left to right)

AS - Addition/subtraction (left to right)

Exs

$$\begin{aligned} 2 + 3 \cdot 4 - 1 &= 2 + 12 - 1 && \rightarrow \text{multiplication first} \\ &= 14 - 1 \\ &= 13 \end{aligned}$$

$$\begin{aligned} (2+3)4 - 1 &= 5(4) - 1 && \rightarrow \text{parentheses then multiplication then subtraction} \\ &= 20 - 1 \\ &= 19 \end{aligned}$$

$$\begin{aligned} 2 + 3 \cdot 2^2 &= 2 + 3 \cdot 4 && \rightarrow \text{exponent then multiplication then addition} \\ &= 2 + 12 \\ &= 14 \end{aligned}$$

$$\begin{aligned} 2 + (3 \cdot 2)^2 &= 2 + (6)^2 && \rightarrow \text{parentheses then exponents then addition} \\ &= 2 + 36 \\ &= 38 \end{aligned}$$