

February 1, 2016

Order of Operations

① Simplify inside any Grouping Symbol.

$$\begin{aligned}
 & (), [], \{ \}, |a|, \sqrt{a}, \frac{a}{b} \\
 & |3-8| \qquad \frac{6}{2}=3 \\
 & |-5| \\
 & \boxed{5}
 \end{aligned}$$

② Evaluate Exponents

$$3^3 = 3 \cdot 3 \cdot 3 = \boxed{27}$$

Feb 1-9:04 AM

③ Multiplication or Division working from left to right which ever operation comes first.

$$\begin{aligned}
 & 2 + 4 \div 2 \cdot 6 + 2 \\
 & 2 + 2 \cdot 6 + 2 \\
 & 2 + 12 + 2 \\
 & \boxed{16}
 \end{aligned}$$

④ Addition or Subtraction working left to right which ever comes first.

$$\begin{aligned}
 & 14 + 2 \\
 & \boxed{16}
 \end{aligned}$$

Feb 1-9:17 AM

$$\frac{|-2+8|}{-12+8} \div 4 \cdot 2$$

$$\frac{-12+8}{-12+8}$$

$$\frac{|6|}{-12+8} \div 4 \cdot 2$$

$$\frac{6}{-12+8} \div 4 \cdot 2$$

$$\frac{\frac{6}{4} \cdot 2}{-12+8} = \frac{\frac{3}{2} \cdot 2}{-12+8}$$

$$\frac{6}{-12+8}$$

$$\frac{3}{-12+8}$$

$$\frac{3}{-4} \rightarrow -\frac{3}{4}$$

Feb 1-9:23 AM

$$-\frac{1}{2} + [(-2+3)+1]^2 \div 4 + 2 \cdot \frac{1}{2} - \frac{1}{2}$$

$$-\frac{1}{2} + [1+1]^2 \div 4 + 2 \cdot \frac{1}{2} - \frac{1}{2}$$

$$-\frac{1}{2} + [2]^2 \div 4 + 2 \cdot \frac{1}{2} - \frac{1}{2}$$

$$-\frac{1}{2} + 4 \div 4 + 2 \cdot \frac{1}{2} - \frac{1}{2}$$

$$-\frac{1}{2} + 1 + 2 \cdot \frac{1}{2} - \frac{1}{2}$$

$$-\frac{1}{2} + 1 + 1 - \frac{1}{2}$$

$$\frac{-\frac{1}{2} + 1}{2} - \frac{1}{2}$$

$$\frac{1+2}{2}$$

$$\frac{\frac{3}{2} - \frac{1}{2}}{2}$$

$$\frac{3-1}{2} = \frac{2}{2} = \boxed{1}$$

Feb 1-9:33 AM