

Notes 1.1: Order of Operations and Graph Coordinate Points

Word	Meaning/Notation	Groups () √ [] ← absolute value Example
Order of Operations (PEMDAS)	The precise order that math operations should be completed	1 st Groups 2 nd Exponents 3 rd multiply/Divide left to right 4 th add/subtract left to right

Practice by showing each step (show your work):

$$\begin{aligned}
 1. \quad & 5(4-2)^2 \\
 & 5(2)^2 \\
 & 5(4) \\
 & \boxed{20}
 \end{aligned}$$

$$\begin{aligned}
 2. \quad & 24 - 2(3) + 1 \\
 & 24 - 6 + 1 \\
 & 18 + 1 \\
 & \boxed{19}
 \end{aligned}$$

$$\begin{aligned}
 3. \quad & 30 - (1+2)^3 \\
 & 30 - (3)^3 \\
 & 30 - 27 \\
 & \boxed{3}
 \end{aligned}$$

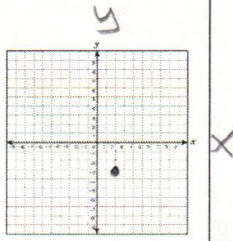
$$\begin{aligned}
 4. \quad & \frac{16}{8} \cdot 6 + 3 \\
 & 2 \cdot 6 + 3 \\
 & 12 + 3 \\
 & \boxed{15}
 \end{aligned}$$

$$\begin{aligned}
 5. \quad & 5(3 + 2 \cdot 3) - 45 \\
 & 5(3 + 6) - 45 \\
 & 5(9) - 45 \\
 & 45 - 45 \\
 & \boxed{0}
 \end{aligned}$$

$$\begin{aligned}
 6. \quad & 5(-2)^3 - 3(5 - (-3)) \leftarrow (5+3) \\
 & 5(-2)^3 - 3(8) \\
 & 5(-8) - 3(8) \\
 & -40 - 3(8) \\
 & -40 - 24 \\
 & \boxed{-64}
 \end{aligned}$$

$$\begin{aligned}
 7. \quad & -3[5 + 2(3 - 1)^2] \\
 & -3[5 + 2(2)^2] \\
 & -3[5 + 2(4)] \\
 & -3[5 + 8] \\
 & -3[13] \\
 & \boxed{-39}
 \end{aligned}$$

$$\begin{aligned}
 8. \quad & \frac{(-3-4)}{5 \cdot 2 + 4} \\
 & \frac{-7}{10 + 4} \\
 & \frac{-7}{14} \\
 & \boxed{-\frac{1}{2}}
 \end{aligned}$$

Word	Meaning/Notation	Example
Coordinate Points	Set of values that show the location of a point on a coordinate graph	$(2, -3)$ $\rightarrow 2 \downarrow 3$ from the origin 
Ordered Pair	The horizontal & vertical values of a point	(x, y) $(\leftrightarrow, \updownarrow)$

Graph and label each point

A $(-1, 10)$

C $(0, -9)$

E $(6, -6)$

G $(-4, 7)$

B $(-5, -3)$

D $(5, -1)$

F $(4, 0)$

H $(8, 9)$

Origin $(0, 0)$

