

# Operations with Integers

When an expression has more than one operation, you evaluate it using the order of operations. The order of operations is a set of rules that tells you which operation to do first.

## PMDAS

**P: Parenthesis**  
**M: Multiplication**  
**D: Division**  
**A: Addition**  
**S: Subtraction**

Evaluate  $18 + (4 \times 6) \div 2$

**STEP 1:** Operate inside parentheses.

$$\begin{aligned} 18 + (4 \times 6) \div 2 \\ 4 \times 6 = 24 \end{aligned}$$

**STEP 2:** Multiply and divide from left to right.

$$\begin{aligned} 18 + 24 \div 2 \\ 24 \div 2 = 12 \end{aligned}$$

**STEP 3:** Add and subtract from left to right.

$$18 + 12$$

$$18 + 12 = 30$$

So,  $18 + (4 \times 6) \div 2 = 30$

### Examples:

**A-** Solve the following expressions based on the order of operations.

1)  $36 - (3 \times 4) \div 2$

$$\begin{aligned} 36 - 12 \div 2 \\ 36 - 6 \\ 30 \end{aligned}$$

2)  $21 + (12 \div 3) \times 5$

$$\begin{aligned} 21 + 4 \times 5 \\ 21 + 20 \\ 41 \end{aligned}$$

**B-** Find the value of the expression.

3)  $(-7 - 5) \div 4$

$$\begin{aligned} -12 \div 4 \\ -3 \end{aligned}$$

4)  $(-9 + -2) \times 3$

$$\begin{aligned} +11 \times 3 \\ +33 \end{aligned}$$

5)  $(-10 - -4) \div -2$

$$\begin{aligned} +8 \div -2 \\ -4 \end{aligned}$$

**C-** Compare. Write  $<$ ,  $>$  or  $=$ .

6)  $-3 + 10 \leq -6 \times 1$   
 $-7 \quad -6$

7)  $-14 + -4 \geq -7 \times 2$   
 $-18 \quad -14$