

# Please Excuse My Dear Aunt Sally

## Order of Operations

**Order of Operation:** Simplify numerical expressions using the following order:

Parentheses (if an operation is shown inside parenthesis)

Exponents and roots

Multiplications and Divisions (in order from left to right)

Additions and Subtractions (in order from left to right)

Please **Excuse My Dear Aunt Sally**:

*Example 1:* Simplify  $4 + 3 \cdot 2 =$   
Solution:  $4 + 6 =$   
 $10$

*Example 2:* Simplify  $(24 - 18) \cdot 6 =$   
Solution:  $(6) \cdot (6) =$   
 $36$

*Example 3:* Simplify:  $-4(-2) - 5(-3) =$   
Solution:  $8 + 15 =$   
 $23$

*Example 4:* Simplify:  $3(5 - 7) + (3 + 2)^2 =$   
Solution:  $3(-2) + (5)^2 =$   
 $-6 + 25 =$   
 $19$

## Practice Problems

Simplify using PEMDAS

1.  $18 - 2 \cdot (6) \div 4 =$  \_\_\_\_\_

2.  $25 - 10 \div 5 + 3 =$  \_\_\_\_\_

3.  $9 \div -3 + 5 \cdot -3 =$  \_\_\_\_\_

4.  $(18 - 6) \cdot 8 \div 4 =$  \_\_\_\_\_

5.  $6 + 3^2 =$  \_\_\_\_\_

6.  $(6 + 3)^2 =$  \_\_\_\_\_

7.  $(17 - 14)^2 + (5 - 2^3) =$  \_\_\_\_\_