Prealgebra ~ Lesson 7

Work the following examples as you listen to the recorded lecture.

Exponents

$$2^3$$

Write the following using exponential notation:

Example 1: $5 \cdot 5 \cdot 5 \cdot 5$

Example 2: $6 \cdot 6 \cdot 6 \cdot 6 \cdot 6 \cdot 6 \cdot 6$

Example 3: $4 \cdot 4 \cdot 3 \cdot 3 \cdot 3$

Example 4: $7 \cdot 4 \cdot 4 \cdot 4$

Evaluate the following:

Example 5: 6^2 Example 6: 3^5 Example 7: 8^1 Example 8: 1^{95}

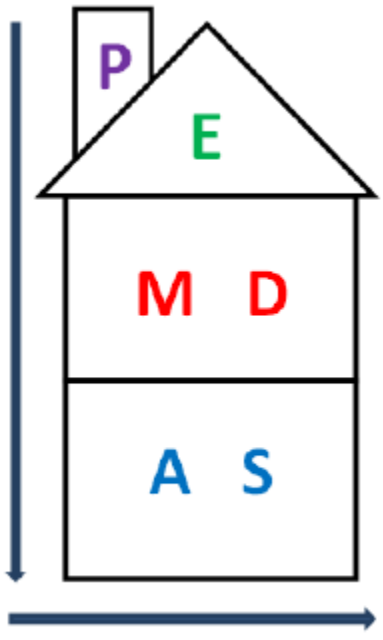
Order of Operations

Mathematical operations must be completed in the correct order by operation. The rules are simple and easy to remember – just follow the signs in the house, working from top to bottom and left to right:

1. Parentheses - Roof
2. Exponents - Attic
3. Multiplication and Division – 2nd Floor
4. Addition and Subtraction – 1st Floor

Each floor of the house must be cleared before you can go down to the next level.

Work top to bottom, left to right...
just like reading a book!



1. Roof

2. Attic

3. 2nd Floor

4. 1st Floor

Work the following examples as you listen to the recorded lecture.

Order of Operations (continued)

Simplify the following using the correct Order of Operations:

Example 9: $24 + 6 \cdot 3$

Example 10: $100 \div 10 \cdot 5 + 4$

Example 11: $32 + \frac{8}{2}$

Example 12: $3 \cdot 4 + 9 \cdot 1$

Example 13: $\frac{6+9\div3}{3^2}$

Example 14: $5^2 \cdot (10 - 8) + 2^3 + 5^2$

Example 15: $\frac{5(12-7)-4}{5^2-18}$

Example 16: $18 - 7 \div 0$

Example 17: $(18 \div 6) + [(3 + 5) \cdot 2]$

Example 18: $39 - \{5 + 3[8 \cdot (10 - 8)] - 20\}$