

Lesson #3: Using Order of Operations to Simplify Numeric Expression and Simplifying Basic Absolute Value and Radical Expressions (Reference: Lesson #4, #7, #9 & #13 in book)**Problem**

1. Simplify each of the following numeric expressions by using Order of Operations.

1. $(4 \cdot 5) + 3 \cdot (6 + 2)$

2. $5^2 + 8 \div 2 - 3 \cdot (2)^3$

3. $\frac{(3 \cdot 4 - 3)^2}{3}$

4. $\frac{15 - 3^2 + 4 \cdot 2}{7}$

5. $\frac{2(7 + 8) + 2}{3 \cdot 5 + 1}$

6. $4^2 [(13 + 4) - 8]$

7. $\frac{8 + 6(3^2 - 1)}{3 \cdot 2 - 2}$

8. $-4 + [6 - (-2 + 4)^2]$

9. $\frac{4 + 5}{3} - (2 \cdot 3^2 - 4)$

10. $12 + [5(7 - 5)^3 - 14]$

11. $[(9 - 5)^2 + 7] - 3^3$

12. $\frac{4(7 + 2) + 8(8 - 3)}{6(4 - 2) - 2^2}$

13. Compare the expressions and use $<$, $>$, or $=$ to create a true numeric expression.

$$13. (2 \cdot 5 + 5) \div 3 + 4^2 \bigcirc \frac{(22+5)}{3} - 9$$

$$14. (13-5) - [5 \cdot 2^2] \bigcirc [(7+11) - 5] - 2^3$$

$$15. 14 + [(3-5)^3 + 7] \bigcirc 4^2 - [20 - (5)^2]$$

$$16. (15+3) \div 9 + 3^3 \bigcirc \frac{(18+8)}{2} - 8 \div 4$$

17. Simplify and Evaluate each of the following Absolute Value and Radical expressions.

$$17. |22|$$

$$18. |17-24|$$

$$19. -|(4 \cdot 5) \div 2 - 6|$$

$$20. -\left|\frac{1}{3} - 2\right|$$

$$21. |3-9| - |5-2|$$

$$22. \sqrt{600}$$

$$23. \sqrt{243}$$

$$24. \sqrt{90}$$

$$25. \sqrt{71}$$