

Unit 1: Expressions

WS 2: Order of operations

Use grouping symbols and order of operations to simplify the following expressions:

1. $21 + (4 + 10)$

9. $[8 + (2 \times 1)] \times 0$

2. $16 + (4 \times 10)$

10. $3\{5 + [(2 + 7) + 11]\}$

3. $\frac{36 - 6}{12 + 3}$

11. $\frac{6^2 - 3^2}{6 - 3}$

4. $[16 - (2 \cdot 3)] \times 3$

12. $[(16 - 4) \div (3 \times 2)] \div 3$

5. $[(7 \cdot 4) - (3 \cdot 6)] \div 2$

13. $6 + [12 - (4 \times 2)]$

6. $\frac{11 + 9}{2 \times 5}$

14. $\left[\frac{12 + 8}{9 \times 6} - \frac{1}{54} \right] - \frac{2}{6}$

7. $[6 + (4 \cdot 2)] + [(7 \cdot 3) - 4]$

15. $\{[(2 \cdot 3) + (7 \cdot 4)] + 2\} \cdot [(8 - 6) - (4 - 3)]$

8. $\{[(3 \cdot 2) + 4] + 5\} \cdot 2$

16. $[40 \div (4 \times 5)] \div 2$

$$17. 64 - 5 \cdot 1 + 4 \div 8 + 5$$

$$20. (4 - 1)^2 + (12 - 3)^2 + (5 - 2)^3$$

$$18. 48 + 3 \cdot 4 - 9 \cdot 2 \div 6$$

$$21. 5[5 - (0 \times 3)]$$

$$19. 3^3 + (2 \times 5)^2$$

$$22. 4 \times 3 + 4 \times 5 \div 4 - 1$$

Substitute and evaluate: $x = 8$, $y = 6$, $m = 3$, $p = \frac{1}{2}$, $n = \frac{3}{4}$

$$1. 4x - 2m$$

$$5. 2ny + x$$

$$2. 5y + 8p$$

$$6. (x + y) \div p$$

$$3. nxy \div m$$

$$7. 6p + 8n$$

$$4. 2(3x + 6) \div (10m)$$

$$8. my - 2x$$