

Exponential Notation and Order of Operations

Simplify:

1. $3 \times 2^2 + 8 \div 4$

2. $3 \cdot (12 - 10) \div 2 - 3$

3. $4 \cdot (18 - 12 \div 2) + 3 \cdot (3 + 2^2 \times 10 \div 5)$

4. $3 \cdot \sqrt{64} - 2^3 \div 4 - 9 \cdot (27 \div 9 - 3)$

5. $3^2 \cdot 6 \div 9 + 2 \cdot 3$

6. $15 - 12 + 3 \div 3 \cdot 2 - (8 - 6)^2$

7. $\sqrt{81} \times \sqrt{25} - 10 + \sqrt{36} \div 3 \cdot 4$

8. $2^3 \cdot 3^2 \div 9 - 4 \times 2 \cdot \sqrt{49} \div 2^3$

9. $\sqrt{144} \div \sqrt{4} + 36 \div 12 \cdot (3 - 1)^2$

10. $[20 \div 2^2 - 5 + \sqrt{9} \div 3] + [3^3 \div 9]$

11. $2 \cdot 8 + 4 \cdot (8 - 6)^2 - [10 - 4 \div 2 \cdot \sqrt{16}]$

12. $150 \div 5 + 4 \cdot (9 - 5)^3 \div (3 + 5)$

13. $8 \cdot (11 - 4)^2 - 3 \cdot (7 + 3)^2$

14. $[18 - (2 + 4) \div 2] - [36 \div (12 - 3)]$

15. $\{[24 - 3 \cdot 4] - [54 \div (14 - 5)]\} + \{72 - 15 \times 4 + [(81 - 7 \cdot 5) + 1]\}$

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Solutions:

1. 14

2. 0

3. 81

4. 22

5. 12

6. 1

7. 43

8. 1

9. 18

10. 4

11. 30

12. 62

13. 92

14. 11

15. 65

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