

Order of Operations 1

1) On the back, list the order of operations in detail.

(KEY)

Parentheses: Left to Right, Inside-out

Exponents (Powers and Roots): Left to Right

Multiplication/Division: Left to Right

Addition/Subtraction: Left to Right

Simplify the following expressions.

2) $5 + 2 \cdot 6 - 9$

$$\begin{aligned} 5 + 12 - 9 \\ 17 - 9 \\ \mathbf{8} \end{aligned}$$

3) $16 \div 4 + 6 \cdot 2$

$$\begin{aligned} 4 + 12 \\ \mathbf{16} \end{aligned}$$

4) $13 - 7 \cdot 6 \div 14$

$$\begin{aligned} 13 - 42 \div 14 \\ 13 - 3 \\ \mathbf{10} \end{aligned}$$

5) $6 + 24 \div 6 \cdot 5$

$$\begin{aligned} 6 + 4 \cdot 5 \\ 6 + 20 \\ \mathbf{26} \end{aligned}$$

6) $7 + (-42) \div 3 + (-15)$

$$\begin{aligned} 7 + (-14) + (-15) \\ \mathbf{-22} \end{aligned}$$

7) $5 \cdot 8 - 12 \div (-3)$

$$\begin{aligned} 40 - (-4) \\ \mathbf{44} \end{aligned}$$

8) $15 - 4^2 \div 2$

$$\begin{aligned} 15 - 16 \div 2 \\ 15 - 8 \\ \mathbf{7} \end{aligned}$$

9) $6 \cdot 2 + 5^2$

$$\begin{aligned} 12 + 25 \\ \mathbf{37} \end{aligned}$$

10) $15 + 3^2$

$$\begin{aligned} 15 + 9 \\ \mathbf{24} \end{aligned}$$

11) $6^2 - 10$

$$\begin{aligned} 36 - 10 \\ \mathbf{26} \end{aligned}$$

12) $(5+2)^2$

$$\begin{aligned} 7^2 \\ \mathbf{49} \end{aligned}$$

13) $6^2 \div (4+5)$

$$\begin{aligned} 36 \div 9 \\ \mathbf{4} \end{aligned}$$

14) $(7^2-4) \div 9$

$$\begin{aligned} (49 - 4) \div 9 \\ 45 \div 9 \\ \mathbf{5} \end{aligned}$$

15) $4^2 - (5 \cdot 3)$

$$\begin{aligned} 16 - 15 \\ \mathbf{1} \end{aligned}$$

16) $[7(12-4)] + 3^2$

$$\begin{aligned} [(7(8))] + 9 \\ 56 + 9 \\ \mathbf{65} \end{aligned}$$

17) $54 - [6(4^2-3^2)]$

$$\begin{aligned} 54 - [6(16 - 9)] \\ 54 - [6(7)] \\ 54 - 42 \\ \mathbf{12} \end{aligned}$$

18) $(7 + 3\sqrt{25} + 2) \div 6$

$$\begin{aligned} (7 + 3(5) + 2) \div 6 \\ (7 + 15 + 2) \div 6 \\ 24 \div 6 \\ \mathbf{4} \end{aligned}$$

See Back for 19 - 30

19) 7^2

49

20) 5^3

125

21) 11^2

121

22) 8^3

512

23) 3^4

81

24) 2^5

32

25) $\sqrt{36}$

6

26) $\sqrt{81}$

9

27) $\sqrt{144}$

12

28) $\sqrt{196}$

14

29) $\sqrt{18}$

$$\frac{\sqrt{9 \cdot 2}}{3\sqrt{2}}$$

30) $\sqrt{12}$

$$\frac{\sqrt{4 \cdot 3}}{2\sqrt{3}}$$