

6th Grade Math

Order of Operations

Review

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Order of Operations is a series of steps

- ① **P**arenthesis ()
- ② **E**xponents n^2 or 3^2
- ③ **M**ultiply or **D**ivide
- ④ **A**dd or **S**ubtract

Remember:

P Please

E Excuse

MD My Dear

AS Aunt Sally

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Here is why we use it:

If you added first... Right Way


$$\begin{array}{l} 3 + 4 \times 2 \\ = 7 \times 2 \\ = 14 \end{array} \neq \begin{array}{l} 3 + 4 \times 2 \\ = 3 + 8 \\ = 11 \end{array}$$

Wrong! PEMDAS

If you subtracted first... Right Way

$$\begin{array}{l} 8 - 6 \div 2 \\ = 2 \div 2 \\ = 1 \end{array} \neq \begin{array}{l} 8 - 6 \div 2 \\ = 8 - 3 \\ = 5 \end{array}$$

Wrong!

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Examples: When you see a complex math problem, make sure you write


PEMDAS

① $7 + 16 \div 2$ ② $(9 - 3) \div 2 + 1$

$$\begin{array}{l} = 7 + 8 \\ = 15 \end{array} \quad \begin{array}{l} = 6 \div 2 + 1 \\ = 3 + 1 \\ = 4 \end{array}$$

③ $35 \div (15 - 2^2)$ ④ $3(4 + 2)$

$$\begin{array}{l} = 35 \div (15 - 8) \\ = 35 \div 7 \\ = 5 \end{array} \quad \begin{array}{l} = 3 \cdot 6 \\ = \frac{18}{9} = 18 \div 9 = 2 \end{array}$$

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Exercises

① $4 + 12 \div 2$ ② $(7-1) \div 2 + 3$

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Hint!

③ $16 \div (18 - 4^2)$ ④ $\frac{4(7+9)}{2}$

$= 16 \div (18 - 16)$ $= \frac{4 \cdot 16}{2}$

$= 16 \div 2$ $= \frac{64}{2}$

$= 8$ $= 32$

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⑤ $2 + 8 \div 4$ ⑥ $(7-1) \div 2 + 4$

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⑦ $15 \div (16 - 3^2)$ ⑧ $\frac{3(4+2)}{2}$

$= 15 \div (16 - 9)$ $= \frac{3 \cdot 6}{2}$

$= 15 \div 7$ $= \frac{18}{2}$

$= 2 \frac{1}{7}$ $= 9$

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