Order of Operations



Why does order matter?

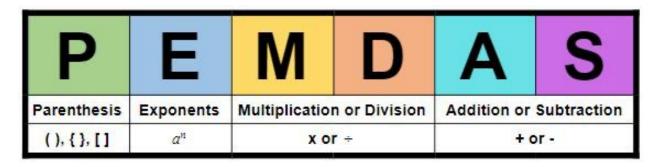
- Sometimes, math problems have more than one component in it
- The order of operations tells us how to do these operations in the correct order

What does the order of operations mean?

- The first rule of order of operations is P.E.M.D.A.S.
- Don't forget to solve the problem from left to right!

Order of Operations

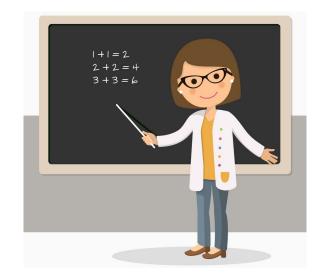
- Begin with parentheses or brackets
- Next, calculate exponents or square roots
- Then multiply or divide
- Finally, add or subtract
- To help you remember the order, use PEMDAS:



A neat trick to help you remember

To help you remember the order, you can use the acrostic:

Please Excuse My Dear Aunt Sally

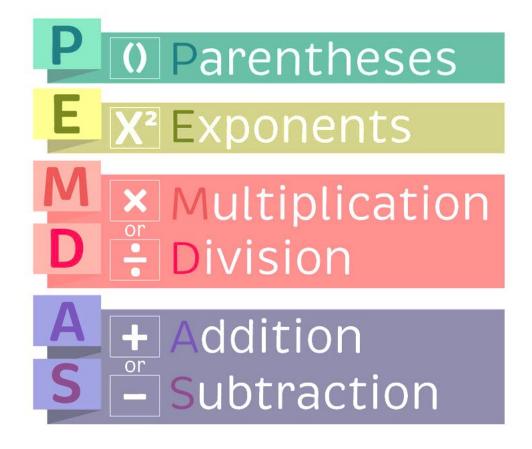


Ready to try it out?

Now that you've learned the order of operations (and a trick for remembering it), let's put it into practice!

Order of Operations – Examples

Solve the following problems using the order of operations:



Order of Operations – Example 1

Simplify:

 $(6+\frac{12}{3})^2$

Order of Operations – Example I Answer

Answer:

$$(6 + \frac{12}{3})^2 = (6 + 4)^2$$
 (Parentheses first, 12/3)
= 10² (Add inside parentheses)
= 100 (Square 10)

Order of Operations – Example 2

Simplify:

 $\frac{5+6+7}{3}$

Order of Operations – Example 2 Answer

Answer:

 $\frac{5+6+7}{3} = \frac{18}{3}$ (Since 1) = 6

(Simplify the numerator)

(Divide)

Order of Operations – Example 3

Simplify:

 $\frac{2^2 + 3^2 + 4^2}{3 - 1}$

Order of Operations – Example 3 Answer

Answer:

$$\frac{2^2 + 3^2 + 4^2}{3 - 1} = \frac{4 + 9 + 16}{2}$$
$$= \frac{29}{2}$$
$$= 14.5$$

(Exponents in the numerator)

(Simplify the numerator)

(Divide)

Learning objectives

By the end of this review, you should be able to:

Apply the order of operations

