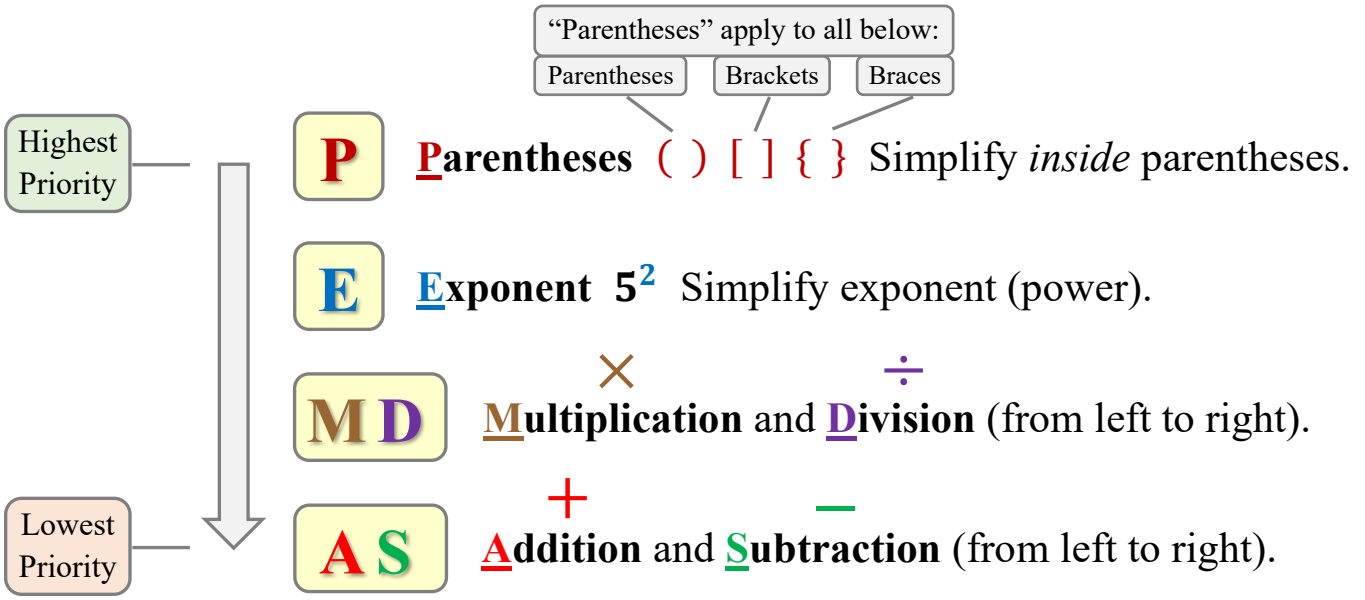
ORDER OF OPERATIONS

PEMDAS

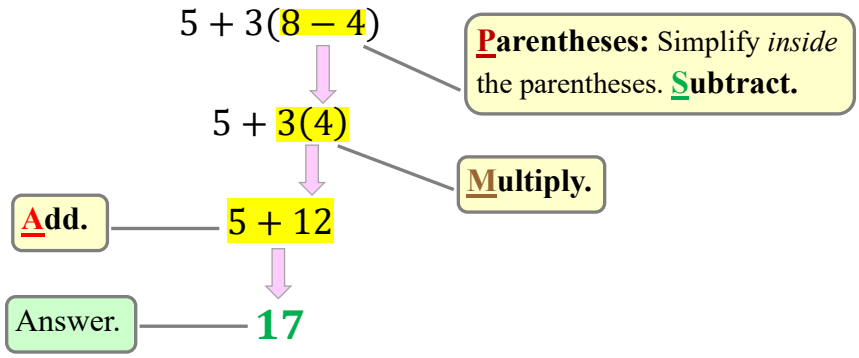


NOTES

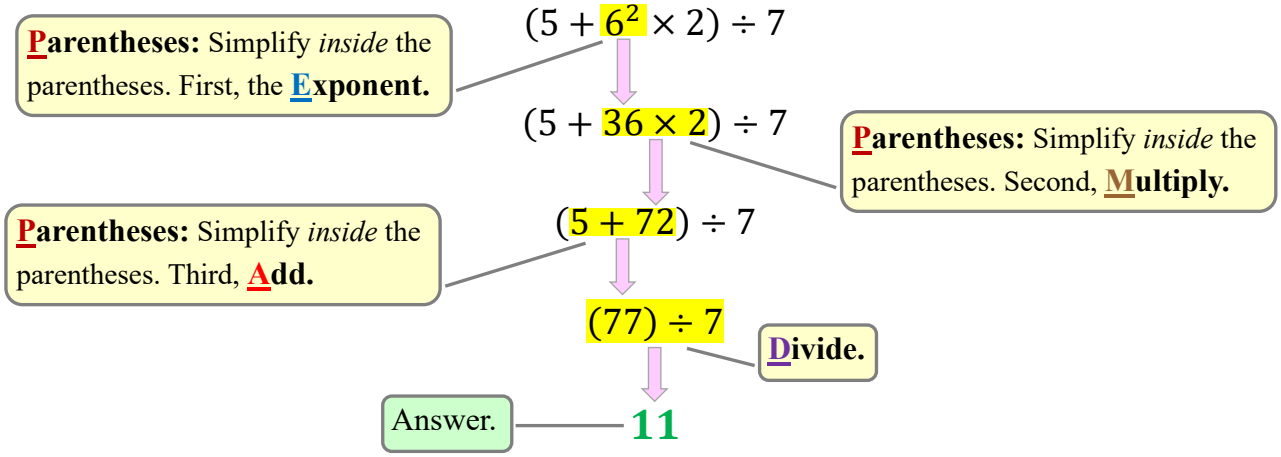
- An **operation** in this course means addition, subtraction, multiplication, division, or exponent.
- To remember the **Order of Operations,** we will use the acronym "PEMDAS" as a memory aid. The order of the letters in **PEMDAS** can be remembered as "**P**lease **E**xcuse **M**y **D**ear **A**unt **S**ally."
- PEMDAS helps us to solve complicated expressions because it guides us into simplifying the correct operation during each step of the problem.
- *Order* matters for PEMDAS. If the problem has parentheses, the "**P**" must be done *first.* If the problem has an exponent, the "**E**" must be done *second,* and so on. Proceed from top to bottom on the chart above, from highest to lowest priority.
- When a problem has *both* multiplication and division, you **MUST** simplify from left to right. You will get an **incorrect** answer if you simplify using a different order.
- When a problem has *both* addition and subtraction, you **MAY** simplify from left to right.
  - You will still get the **correct** answer if you simplify using a different order.
  - However, to be consistent with the rule for multiplication and division, also simplify addition and subtraction from left to right.
- **CAUTION:** If you simplify a problem by not using the correct priority for the *Order of Operations,* you will likely calculate an **incorrect** answer.

See examples on back ↗

Example 1: Solve the expression using the *Order of Operations* (**PEMDAS**).



Example 2: Solve the expression using the *Order of Operations* (**PEMDAS**).



Example 3: Solve the expression using the *Order of Operations* (**PEMDAS**).