Order of Operations Example

Evaluate 24 / 3 + 2^2 x (5 - 2) using PEMDAS/BODMAS rules.

Simplify grouping first, then exponents. Multiplication and division have equal priority and are evaluated from left to right; addition follows.

Problem

24 / 3 + 2^2 x (5 - 2) = ?

Stage	Expression	Operation
Grouping	24 / 3 + 2^2 x 3	5 - 2 = 3
Exponent	24 / 3 + 4 x 3	2^2 = 4
Divide / multiply	8 + 12	24 / 3 = 8; 4 x 3 = 12
Add	**20**	**8 + 12 = 20**

Step-by-step solution

1. Simplify the parentheses

5 - 2 = 3, so the expression becomes 24 / 3 + 2^2 x 3.

2. Evaluate the exponent

2^2 = 4. Now evaluate 24 / 3 + 4 x 3.

3. Divide and multiply left to right

24 / 3 = 8 and 4 x 3 = 12, giving 8 + 12.

4. Add

8 + 12 = 20. This is the value of the original expression.

Answer

24 / 3 + 2^2 x (5 - 2) = 8 + 12 = 20

The expression evaluates to 20.