Functions Example

Evaluate a function by substituting the input carefully and following the order of operations.

If f(x) = 2x^2 - 3x + 1, find f(-2).

Function notation f(a) means the output when the input is a.

Step-by-step solution

1. Substitute -2 for every x

f(-2) = 2(-2)^2 - 3(-2) + 1.

2. Evaluate the exponent

(-2)^2 = 4, so f(-2) = 2(4) - 3(-2) + 1.

3. Multiply

f(-2) = 8 + 6 + 1.

4. Add

f(-2) = 15. The graph contains the point (-2, 15).

Answer

f(-2) = 15

Check

The terms are 2(-2)^2 = 8 and -3(-2) = 6; then 8 + 6 + 1 = 15.