

# Statements in Mathematics

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## 1 Statements in Mathematics

A statement in mathematics is a declarative sentence that must be either true or false, but not both. Statements may also be referred to as **propositions**.

The important aspect of a statement is that it can be objectively answered with "yes" or "no," regardless of whether it is correct. Even if the result is false, the sentence itself qualifies as a statement because it can be evaluated.

Here are five examples to illustrate this concept:

### 1.1 Examples

1.  $1 - 3 = 5$ : This is a statement, but it is incorrect because the answer is clearly "no."
2. "37": This is **not** a statement. If someone says this to you randomly on the street, your response might be, "What are you talking about?"
3. "What is the answer to  $2 + 2 = ?$ ": This is not a statement because it is a question.
4. "The answer to  $2 + 2 = 4$ ": This is a correct statement, because you can say "yes, that is correct."
5. "What is your name?": This is not a statement, as it requires an answer other than "true" or "false."

## 2 Conclusion

This basic document about introduction to statements in mathematics. A statement must always have a definite truth value — either true or false — but never both. Understanding statements is very important for logic and mathematics.

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