

Conditional Statement:

1. If it is noon in Georgia, then it is 9am in California.

Rewrite the following statements into if-then form

2. I'll wash the car if the weather is nice.
3. I'll be a millionaire if I win monopoly.

To prove true →

To prove false →

Ex. Find a counterexample for:
If $x^2 = 16$, then $x = 4$.

Converse:

4.
Statement: If you see lightning then you hear thunder.

Converse:

5.

Statement: If you play like football, then you are on the football team.

Converse:

Perpendicular Lines: intersect to form a right angle.

*Can be interpreted "forward" and "backward"

1.

2.

Note: Converse of first statement is still true!

Biconditional statement:

Ex. I am breathing if and only if I am alive.

Conditional Statement:

Converse:

True Biconditional Statement when:

1.

2.

False Biconditional Statement when:

Examples:

1. Determine if the following biconditional statement is true:

“ $x = 3$ if and only if $x^2 = 9$ ”

2. Write the converse of the statement below. If the converse is true, write the biconditional statement:

“If the tea kettle is whistling then the water is boiling.”