Biconditional Statement

1. A biconditional statement is a statement that contains the phrase " if and only if."

2. Writing a biconditional statements is equivalent to writing a conditional statement and its converse.

3. A Biconditional Statement can be either true or false. To be true, both the conditional statement (implication) and it's converse must be true. This means that a biconditional statement is true both "forwards" and "backwards." All definitions can be written as true biconditional statements.

Write three examples of biconditional statement.

- 2 points lie in a plane if and only if the line containing them lies in the plane.
- 3 lines are coplanar if and only if they lie in the same plane.
- Point B lies between A and C if and only if AB+BC=AC

Rewrite the biconditional statement as
a conditional statement (implication) and its converse.

1.We will go the beach if and only if it is sunny.

Conditional statement: If we go to the beach, then its sunny

Converse: If its sunny, then we will go to the beach.

2.2 lines intersect if and only if their intersection is exactly one point.

Conditional statement: If 2 lines intersect , then their intersection is exactly one point.

Converse: If their intersection is exactly one point then. 2 lines intersect.

1   The biconditional is a combination of the inverse and the contrapositive.

True

False

2   The following two statements make up the biconditional statement.

(A) Conditional

B   Inverse

(C) Converse

D   Contrapositive