Answer Key · Lesson 1.3: Conditional Statements

School Launch · Geometry · Unit 1 · Worksheet A · for the parent

Key

1. Converse: If they are congruent, then two angles are vertical angles.

Statement: “If two angles are vertical angles, then they are congruent.” Write its converse.

2. Converse: If it is a square, then a quadrilateral is a rectangle.

Statement: “If a quadrilateral is a rectangle, then it is a square.” Write its converse.

3. Converse: If it is a right angle, then an angle measures 90°.

Statement: “If an angle measures 90°, then it is a right angle.” Write its converse.

4. Converse: If it is divisible by 4, then a number is even. Converse is true.

1. Converse: swap the parts — “If it is divisible by 4, then a number is even.”
2. Test cases: statement false: 6 is even, $6 \div 4 = 1.5$; converse true: multiples of 4 are even

Statement: “If a number is even, then it is divisible by 4.” Write its converse and decide whether the converse is true.

5. Converse: If $x^2 = 9$, then $x = 3$. Converse is false.

1. Converse: swap the parts — “If $x^2 = 9$, then $x = 3$.”
2. Test cases: converse false: $x = -3$ also gives $x^2 = 9$

Statement: “If $x = 3$, then $x^2 = 9$.” Write its converse and decide whether the converse is true.

6. Converse: If it has three sides, then a polygon is a triangle. Converse is true.

1. Converse: swap the parts — “If it has three sides, then a polygon is a triangle.”
2. Test cases: true both ways

Statement: “If a polygon is a triangle, then it has three sides.” Write its converse and decide whether the converse is true.

7. Converse: If it is a square, then a quadrilateral is a rectangle. Converse is true.

1. Converse: swap the parts — “If it is a square, then a quadrilateral is a rectangle.”
2. Test cases: statement false: a 2-by-5 rectangle; converse true: every square is a rectangle

Statement: “If a quadrilateral is a rectangle, then it is a square.” Write its converse and decide whether the converse is true.

8. Converse: If $x^2 = 9$, then $x = 3$. Converse is false. Statement true.

1. Converse: swap the parts — “If $x^2 = 9$, then $x = 3$.”
2. Test cases: converse false: $x = -3$ also gives $x^2 = 9$

Statement: “If $x = 3$, then $x^2 = 9$.” Is the statement true? Is its converse true? If both are true, write the biconditional.

9. Converse: If it is a right angle, then an angle measures 90°. Converse is true. Statement true.

1. Converse: swap the parts — “If it is a right angle, then an angle measures 90°.”
2. Test cases: true both ways

Statement: “If an angle measures 90°, then it is a right angle.” Is the statement true? Is its converse true? If both are true, write the biconditional.

10. Converse: If it is divisible by 4, then a number is even. Converse is true. Statement false.

1. Converse: swap the parts — “If it is divisible by 4, then a number is even.”
2. Test cases: statement false: 6 is even, $6 \div 4 = 1.5$; converse true: multiples of 4 are even

Statement: “If a number is even, then it is divisible by 4.” Is the statement true? Is its converse true? If both are true, write the biconditional.