

2-4: Biconditional Statements

“I WILL ...

...apply biconditional statements to verify conjectures.”

(Page 6): Biconditionals

<p>Ex 1: In this statement, “If a polygon is a hexagon, then it has exactly six sides” state a biconditional statement.</p>	<p>Ex 2: Write a biconditional statement involving the definition of an equilateral triangle. (Hint: each angle is <math>60^\circ</math>).</p>	<p>Your Turn: Write a biconditional statement involving the definition of a perpendicular lines.</p>
<p>Ex 3: For conditional statement, “If <math>5x - 8 = 37</math>, then <math>x = 9</math>,” write the converse and biconditional statement.</p>	<p>Your Turn: For conditional statement, “If points lie on the same line, then they are collinear,” write the converse and biconditional statement.</p>	
<p>Ex 4: For conditional statement, “<math>y = -5 \leftrightarrow y^2 = 25</math>,” write the converse and biconditional statement if it is true. If false, provide a counterexample.</p>	<p>Ex 5: For conditional statement, “You attend school if and only if it is a weekday,” write the converse and biconditional statement if it is true. If false, provide a counterexample.</p>	<p>Your Turn: For conditional statement, “A figure is a quadrilateral if and only if it is a polygon,” write the biconditional statement if it is true. If false, provide a counterexample.</p>

<p>Ex 6: Write the converse of the statement and decide whether the converse is true or false. If the converse is true, combine it with the original statement to form a true biconditional statement. If the converse is false, state a counterexample.</p> <p>Statement: “If the product <math>ab</math> is negative, then either <math>a</math> is negative or <math>b</math> is negative.”</p>	<p>Your Turn: Write the converse of the statement and decide whether the converse is true or false. If the converse is true, combine it with the original statement to form a true biconditional statement. If the converse is false, state a counterexample.</p> <p>Statement: “If the sides of two angles form two pairs of opposite rays, then the angles are vertical angles.”</p>
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