

Lesson 2.2 Worksheet

Name: Key

Rewrite the conditional statement in if-then form.

1.) When $x = 6$, $x^2 = 36$
If $x = 6$, then $x^2 = 36$

2.) The measure of a right angle is 90°
If an angle's measure is 90° , then it is a right angle.

3.) Only people who are registered are allowed to vote.
If a person registers, then they are allowed to vote.

For exercises 4-8, write each given statement in if-then form, then write its converse and inverse.

4.) Complementary angles add to 90°
If-then: If two angles' measures add to 90° , then the angles are complimentary.
Converse: If two angles are complimentary, then their measures add to 90° .
Inverse: If two angles' measures do not add to 90° , then the angles are not complimentary.

5.) Ants are insects.
If-then: If the creature is an ant, then it is an insect.
Converse: If the creature is an insect, then it is an ant.
Inverse: If the creature is not an ant, then it is not an insect.

6.) $3x + 10 = 16$, because $x = 2$.
If-then: If $3x + 10 = 16$, then $x = 2$
Converse: If $x = 2$, then $3x + 10 = 16$
Inverse: If $3x + 10 \neq 16$, then $x \neq 2$

7.) A midpoint bisects a segment.
If-then: If a point is the midpoint of a segment, then the point bisects the segment.
Converse: If a point bisects a segment, then the point is the midpoint of the segment.
Inverse: If a point is not the midpoint of a segment, then the point does not bisect the segment.

Decide whether the statement is true or false. If it is false, then provide a counter example.

8.) If a polygon has five sides, then it is a regular pentagon.

false. Not all pentagons are regular.



9.) If $m\angle A$ is 85° , then the measure of the complement of $\angle A$ is 5° .

True. Complementary \angle 's measures sum to 90°

10.) Supplementary angles are always linear pairs.

false.

Write the following statements as a *biconditional statement*.

11.) An angle with a measure between 90° and 180° is called *obtuse*.

An angle is obtuse if and only if its measure is between 90° and 180° .

12.) Two angles are a *linear pair* if they are adjacent angles whose non-common sides are opposite rays.

Two angles are a linear pair if and only if they are adjacent angles whose non-common sides are opposite rays.