

Name: _____

Biconditional HW

Write the conditional statement and converse within each biconditional.

1. Jerod can play dodgeball if and only if he pays \$5.

Conditional:

Converse:

2. $2x+5=11$ if and only if $x = 3$.

Conditional:

Converse:

3. You live in Texas if and only if you live in the largest state in the contiguous United States.

Conditional:

Converse:

Each conditional statement is true. **Write each converse. If the converse is true, combine the statements and write them as a biconditional.**

4. a. If a figure has eight sides, then it is an octagon.

Converse:
Biconditional (if possible):

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b. If a whole number is a multiple of 5, then its last digit is either a 0 or a 5.

Converse:

Biconditional (if possible):

c. If I have two dimes and a nickel, then I have \$0.25.

Converse:

Biconditional (if possible):

d. If $n = 17$, then $|n| = 17$.

Converse:

Biconditional (if possible):

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- e. If the tea kettle is whistling, then the water is boiling.

Converse:

Biconditional (if possible):

Explain why each of the following is not an acceptable definition.

5. An automobile is a motorized vehicle with four wheels.
6. A cube is something that looks like a box.
7. Cricket is a game played on a large field with a ball and a bat.
8. A rectangle is a very pleasing shape with smooth sides and very rigid corners.
9. Write the following definitions as a biconditional:
 - a. A parallelogram is a quadrilateral with two pairs of parallel sides.
 - b. Congruent angles have equal measure.

#10-11. Give a counterexample to show the converse of the statement is false.

10. If you live in Plymouth, WI, then you attend PHS.
11. If an animal is a leopard, than it has spots.