\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Assignment Unit 3 Day 3

**Guided Practice**

**Write the conditional statement and converse within the biconditional.**

1) A parallelogram is a rectangle if and only if it has four right angles.

Conditional:

Converse:

**For the conditional, write the converse and a biconditional statement.**

2) If two segments have the same length, then they are congruent.

Converse:

Biconditional:

**Determine if each biconditional is true. If false, give a counterexample.**

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

Conditional:

Converse:

4) A figure is a quadrilateral if and only if it is a polygon.

Conditional:

Converse:

**Practice and Problem Solving**

**Write the conditional statement and converse within the biconditional.**

5) Three points are coplanar if and only if they lie in the same plane.

Conditional:

Converse:

**For the conditional, write the converse and a biconditional statement.**

6) If a student is a sophomore, then the student is in the tenth grade.

Converse:

Biconditional:

**Determine if each biconditional is true. If false, give a counterexample.**

7) Felipe is a swimmer if and only if he is an athlete.

Conditional:

Converse:

8) An angle is a right angle if and only if it is 90.

Conditional:

Converse:

**Use the true statements below for Exercises 9-12. Determine whether each conclusion is valid.**

I. The Top Thrill Dragster is at Cedar Point amusement park in Sandusky, OH.

II. Carter and Mary go to Cedar Point.

III. The Top Thrill Dragster roller coaster reaches speeds of 120 mi/h.

IV. When Carter goes to an amusement park, he rides all the roller coasters.

9) Carter went to Sandusky, OH

10) Mary rode the Top Thrill Dragster.

11) Carter rode a roller coaster that travels 120 mi/h.

12) Mary rode a roller coaster that travels 120 mi/h.

13) Which is a counterexample for the biconditional "An angle measures 80 if and only if the angle is acute"?

A) mS = 60 B) mS = 115 C) mS = 90 D) mS = 360

**Review**

14) Complete the conjecture. The sum of two positive numbers is \_\_\_\_\_\_\_\_\_\_\_\_\_.

16)Identify the *hypothesis* and *conclusion* of the conditional.

A number is divisible by 10 if it ends with a zero.

15) What is the contrapositive of: "If it is Saturday, then it is the weekend".

A) If it is the weekend, then it is Saturday.

B) If it is not Saturday, then it is the weekend.

C) If it is not Saturday, then it is not the weekend.

D) If it is not the weekend, then it is not Saturday.