**Geometry Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Chapter 2 Review- Homework Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per: \_\_\_\_\_\_\_\_\_\_**

Directions: Write the converse, inverse, and contrapositive for each statement. Give the truth of each.

1. If two lines have the same slope, then they are parallel.

Converse:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ T or F

Inverse: :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ T or F

Contrapositive: :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ T or F

2. If you are a twin, then you have a sibling.

Converse:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ T or F

Inverse: :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ T or F

Contrapositive: :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ T or F

3. Conditional Statement: If two angles are right angles, then the angles are congruent.

Converse:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ T or F

Inverse: :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ T or F

Contrapositive: :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ T or F

4. Conditional Statement: If a ray bisects an angle, then the angle is divided into two congruent angles.

Converse:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ T or F

Inverse: :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ T or F

Contrapositive: :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ T or F

Directions: Show each conditional is false by finding a counterexample.

5. If a number is divisible by 3, then it is odd.

6. If , then x = 3.

Directions: Use the Law of Syllogism or the Law of Detachment to draw a conclusion.

7. If you liked the movie, then you saw a good movie.

 If you saw a good movie, then you enjoyed yourself.

8. If two lines are not parallel, then they intersect.

 If two lines intersect, then they intersect at a point.

9. If you vacation at the beach, then you like the ocean.

 Sarah vacations at the beach.

Directions: Consider this true conditional. Write its converse. If the converse is true, combine the statements as a biconditional.

10. If two angles add to be 90°, then the angles are complementary.

Converse: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Biconditional: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11. If an angle is equal to 125°, then it is obtuse.

Converse: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Biconditional: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Directions: Use the diagram at the right to answer questions 13-14.

1

2

3

4

12. If , then = \_\_\_\_\_.

13. If , then = \_\_\_\_\_.

14. If , then = \_\_\_\_\_.

Directions: Find the value of the variable(s) in questions 15-18.

75°

(2x – 5)°

15. 16.

110°

(2x + 40)°

Find x. Find x.

x = \_\_\_\_\_ x = \_\_\_\_\_

17. 18.

(11x + 16)°

(8x + 12)°

(5y - 1)°

(3y + 13)°

(3x + 17)°

(3y – 20)°

(5x -47)°

(2y + 9)°

Find x and y. Find x and y.

X = \_\_\_\_\_ x = \_\_\_\_\_

Y = \_\_\_\_\_ y = \_\_\_\_\_

19. If bisects, then find m. 20. Given: bisects ∠XST. Find: m∠RSX

R

S

T

W

X

32°

A

B

C

D

E

6x - 22

4x - 10

21. Given:  bisects ∠ABD.

Find: m∠DBC

A

B

C

D

E

2x + 14

5x - 7

22. An angle is equal to one half of its supplement. Find the supplement.

23. Find the angle that is 24° less than twice its complement.

24. An angle is equal to one fifth of its complement. Find the angle.

Directions: Use the figure at the right to find the indicated angle.

25. If m∠6 = 121°, then m∠7 = \_\_\_\_\_\_\_\_.

6

26. If m∠8 = 113°, then m∠6 = \_\_\_\_\_\_\_\_.

9

8

7

27. If m∠9 = 28°, then m∠8 = \_\_\_\_\_\_\_\_.

28. If m∠7 = 66°, then m∠9 = \_\_\_\_\_\_\_\_.

32°

(9x + 4)˚

29. 30.

(5x - 70)°

(4x - 15)°

31. 32.

75°

(2x – 5)°

y°

(7x + 3) ˚

65˚

(4x + 1) ˚

33.

(3x + 8)°

x°

(2y + 17)°