Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_

**Geometric Properties Quiz 2**

**Part 1: Angle Pair Relationships** – Identify each pair of angles as corresponding, vertical, alternate interior, alternate exterior, same-side interior, or linear pair.

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



**Part 2: Interior Angles of Triangles** – For each triangle, find the value of ‘x’.

30°

4x+20

x+5

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

1.

25

3x + 5

x - 10

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

1. The measures of the angles of a triangle are given as 2*x*°, 3x° and 4x°. What are the measures of each angle?

X = \_\_\_\_\_\_\_ m<1 = \_\_\_\_\_

m<2 = \_\_\_\_\_ m<3 = \_\_\_\_\_

1. One of the congruent angles of an isosceles triangle measures 71°. Find the measure of each of the other angles.

m<1 = \_\_\_\_\_ m<2 = \_\_\_\_\_

**Part 3: Exterior Angles of Triangles** – For each triangle, find the value of ‘x’.

1.

30°

8+6x

4x +2

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

1.

x

50°

120°

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

1.

3x + 2

55

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

13x - 3

15x + 5

1.

6x + 6

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

80°

**Part 4: Similar Figures** – Put the correct answer in each blank.

1. In the diagram below, ABC ~ TUV.

A

T

15

12

25

20

V

U

30

24

B

C

* 1. Since the triangles are similar, identify all pairs of corresponding angles and sides.
		1. <A corresponds to \_\_\_\_\_\_\_\_\_
		2. <B corresponds to \_\_\_\_\_\_\_\_\_
		3. <C corresponds to \_\_\_\_\_\_\_\_\_
		4. AB corresponds to \_\_\_\_\_\_\_\_\_
		5. BC corresponds to \_\_\_\_\_\_\_\_\_
		6. AC corresponds to \_\_\_\_\_\_\_\_\_
	2. Since the triangles are similar, identify the corresponding side lengths by writing a statement of proportionality.

$$\frac{AB}{}= \frac{}{UV}= \frac{AC}{}$$

**Extra Credit:**

1. Substitute the lengths of the sides in the triangles above to write the ratios of the corresponding side lengths in a statement of proportionality.

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1. Reduce the ratio of your answer for number 1.

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