Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Unit 9 – HW Handout #2**

Monica  **Perimeter and Area of Similar Figures**

Geometry Period:\_\_\_\_

Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Directions:** All of the multiple choice questions below are Regents questions. Choose the best answer for each question. Most of these questions will require calculations. You must show all of the calculations in order to receive a “MS” rating.

1) The perimeter of , the image of , is twice as large as the perimeter of . What type of transformation has taken place?

|  |  |
| --- | --- |
| 1) | dilation |
| 2) | translation |
| 3) | rotation |
| 4) | reflection |

2) Two triangles are similar. The lengths of the sides of the smaller triangle are 3, 5, and 6, and the length of the longest side of the larger triangle is 18. What is the perimeter of the larger triangle?

|  |  |
| --- | --- |
| 1) | 14 |
| 2) | 18 |
| 3) | 24 |
| 4) | 42 |

3) Delroy’s sailboat has two sails that are similar triangles. The larger sail has sides of 10 feet, 24 feet, and 26 feet. If the shortest side of the smaller sail measures 6 feet, what is the perimeter of the *smaller* sail?

|  |  |
| --- | --- |
| 1) | 15 ft |
| 2) | 36 ft |
| 3) | 60 ft |
| 4) | 100 ft |

4) The base of an isosceles triangle is 5 and its perimeter is 11. The base of a similar isosceles triangle is 10. What is the perimeter of the larger triangle?

|  |  |
| --- | --- |
| 1) | 15 |
| 2) | 21 |
| 3) | 22 |
| 4) | 110 |

5) On a scale drawing of a new school playground, a triangular area has sides with lengths of 8 centimeters, 15 centimeters, and 17 centimeters. If the triangular area located on the playground has a perimeter of 120 meters, what is the length of its longest side?

|  |  |
| --- | --- |
| 1) | 24 m |
| 2) | 40 m |
| 3) | 45 m |
| 4) | 51 m |

6) The ratio of the corresponding sides of two similar squares is 1 to 3. What is the ratio of the area of the smaller square to the area of the larger square?

|  |  |
| --- | --- |
| 1) |  |
| 2) |  |
| 3) |  |
| 4) |  |

7) Two triangles are similar, and the ratio of each pair of corresponding sides is . Which statement regarding the two triangles is *not* true?

|  |  |
| --- | --- |
| 1) | Their areas have a ratio of . |
| 2) | Their altitudes have a ratio of . |
| 3) | Their perimeters have a ratio of . |
| 4) | Their corresponding angles have a ratio of . |

8)  is similar to . The ratio of the length of  to the length of  is . Which ratio is also equal to ?

|  |  |
| --- | --- |
| 1) |  |
| 2) |  |
| 3) |  |
| 4) |  |

9) Given  such that  . Which statement is *not* true?

|  |  |
| --- | --- |
| 1) |  |
| 2) |  |
| 3) |  |
| 4) |  |

10) Which is *not* a property of all similar triangles?

|  |  |
| --- | --- |
| 1) | The corresponding angles are congruent. |
| 2) | The corresponding sides are congruent. |
| 3) | The perimeters are in the same ratio as the corresponding sides. |
| 4) | The altitudes are in the same ratio as the corresponding sides. |