Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Table #: \_\_\_\_\_\_\_\_Period: \_\_\_\_\_\_\_Date: \_\_\_\_\_\_\_\_\_\_\_

**2.6A NOTES – Perimeters and Areas of Similar Figures**

*Objective: Create rectangles to discover ratios of perimeters and areas of similar figures. CCSS: 8.G.4*

*HW: (2.6A) p. 80 #1 – 7, 10, 11*

Sketch the following rectangles and answer the questions below.

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| **For the rectangles (2x4) (3x6) (4x8)****A B C D** P = \_\_\_\_ P = \_\_\_\_ P = \_\_\_\_ P = \_\_\_\_ |

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| --- |
| $\frac{width of A}{width of B}=$ $ \frac{length of A}{length of B} = \frac{perimeter of A}{perimeter of B}=$ |
| $\frac{width of A}{width of C}=$ $ \frac{length of A}{length ofC} = \frac{perimeter of A}{perimeter of C}=$ |
| $\frac{width of A}{width of D}=$ $ \frac{length of A}{length of D} = \frac{perimeter of A}{perimeter of D}=$ |
| You should have created 3 figures that were similar to the original figure. Do you notice any patterns or relationships? What can you conclude about corresponding sides of similar figures and their perimeters?$$ \frac{ Corresponding Side A}{Corresponding Side B}= $$ |

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| **For the rectangles (2x4) (3x6) (4x8)** **A B C D**AREA = \_\_\_\_\_ AREA = \_\_\_\_\_ AREA = \_\_\_\_\_ AREA = \_\_\_\_\_ |

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| $\frac{width of A}{width of B}=$ $ \frac{length of A}{length of B} = \frac{area of A}{area of B}=$ |
| $\frac{width of A}{width of C}=$ $ \frac{length of A}{length of C} = \frac{area of A}{area of C}=$ |
| $\frac{width of A}{width of D}=$ $ \frac{length of A}{length of D} = \frac{area of A}{area of D}=$ |
| You should have created 3 figures that were similar to the original figure. Do you notice any patterns or relationships? What can you conclude about corresponding sides of similar figures and their areas?$ \frac{ Corresponding Side A}{Corresponding Side B}= $  |

BACK 🡪

**EXAMPLES**

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| --- | --- | --- | --- |
| The two figures are similar. Find the ratios (red to blue) of the perimeters and of the areas.

|  |  |  |
| --- | --- | --- |
| **R****B** |   $\frac{Perimeter (RED)}{Perimeter (BLUE)}= $ | $$\frac{Area (RED)}{Area (BLUE)}=$$ |

 |

**ON YOUR OWN**

The two figures are similar. Find the ratios (shaded to non-shaded) of the perimeters and of the areas.

|  |  |
| --- | --- |
| 1.Perimeter: \_\_\_\_\_\_\_\_ Area: \_\_\_\_\_\_\_\_ | 2.Perimeter: \_\_\_\_\_\_\_\_ Area: \_\_\_\_\_\_\_\_ |
| 3. You buy two picture frames that are similar. The ratio of the corresponding side lengths is 4:5. What is  the ratio of the areas?The ratio of the area is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 4. The base of Triangle P is 8 meters. The base of a similar Triangle Q is 7 meters. What is the ratio of the  area of P to the area of Q?The ratio of the area is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 5. The height of Figure A is 9 feet. The height of a similar Figure B is 15 feet. What is the ratio of the  perimeter of A to the perimeter of B?The ratio of the perimeter is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |