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

**2.6B Perimeters and Areas of Similar Figures\_Classwork**

*CCSS: 8.G.4 (Understanding the relationship between perimeters of similar figures and areas of similar figures.)*

*HW: 2.6B Homework (handout)*

**READ Examples 1 and 2 on p. 78 – 79, then answer On Your Own #1 – 2 and #12 and 15**

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| **ON YOUR OWN 1:** The height of Figure A is 10 feet. The height of a similar Figure B is 15 feet. The perimeter of A is 45 ft. What is the perimeter of B? |
| **ON YOUR OWN 2:** The base of Triangle P is 8 meters. The base of a similar Triangle Q is 7 meters. The area of Triangle Q is 128 m2. What is the area of Triangle P? Round to the nearest tenth. |
| **#12 (2.6):** The playing surfaces of two foosball tables are similar. The ratio of the corresponding side lengths is 10:7. What is the ratio of the areas? |
| **#15 (2.6):**  The ratio of the side length of Square A to the side length of Square B is 4:9. The side length of Square A is 12 yards. What is the perimeter of Square B? |

**2.6B EXAMPLE PROBLEMS**

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| **PERIMETERS OF SIMILAR FIGURES:** **AREAS OF SIMILAR FIGURES:**$\frac{length of A}{length of B}= \frac{Perimeter of A}{Perimeter of B}$ $ \left(\frac{length of A}{length of B}\right)^{2}=\frac{Area of A}{Area of B}$  |

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| **EXAMPLE 1**Find the ratio (small to big) of the perimeters of the similar rectangles.128 |
| **EXAMPLE 2**Find the ratio (small to big) of the areas of the similar triangles.3515 |
| **EXAMPLE 3**The two figures are similar. Find the ratios (small to large) of the perimeters and of the areas.

|  |  |
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| a. Perimeter ratio:\_\_\_\_\_\_\_ Area ratio: \_\_\_\_\_\_\_\_ | b. Perimeter ratio:\_\_\_\_\_\_ Area ratio: \_\_\_\_\_\_\_ |

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| **EXAMPLE 4**The ratios of corresponding side lengths of two similar rectangular tables is 4:5. The perimeter of the larger table is 44 feet. Set up and solve a proportion to find the perimeter of the smaller table. |
| **EXAMPLE 5**The ratio of the corresponding side lengths of two similar MP3 players is 4:3. The area of the larger MP3 player is 8 square inches. What is the area of the smaller MP3 player? |