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

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

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

*HW: 2.6B Homework (handout)*

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| **B****A****4****6****PERIMETERS OF SIMILAR FIGURES:** **AREAS OF SIMILAR FIGURES:**  |

|  |  |  |
| --- | --- | --- |
| **EXAMPLE 1**The two figures are similar. Find the ratios (small to large) of the perimeters and of the areas.

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

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| **EXAMPLE 2**The ratios of corresponding side lengths of two similar rectangular tables is 4:5. The perimeter of the larger table is 44 feet. Find the perimeter of the smaller table. |
| **EXAMPLE 3**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? |
| **Similar Test Question #20:**A rectangular school banner has a length of 34 inches and a width of 15 inches. A sign is made that is similar to the school banner and has a length of 9 inches. What is the ratio of the perimeter of the school banner to the perimeter of the sign?  What is the ratio area of the school banner to the area of the sign?Ratio of the perimeter: \_\_\_\_\_ Ratio of the area: \_\_\_\_\_ |

**BACK 🡪**

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

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| 1. **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?
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| 1. **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.
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| 1. **#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?
 |
| 1. **#13 (2.6):**  A rectangular school banner has a length of 44 inches, a perimeter of 156 inches, and an area of 1496 square inches. The cheerleaders make signs similar to the banner. The length of a sign is 11 inches. What is its perimeter and its area?

Perimeter: \_\_\_\_\_\_\_\_\_\_\_ Area: \_\_\_\_\_\_\_\_\_\_\_ |
| 1. **#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?
 |

Solutions: 1) 67.5 ft 2) 167.2 m2 3) 100/49 4) P= 39 in and A = 93.5 in2 5) 27 yard