

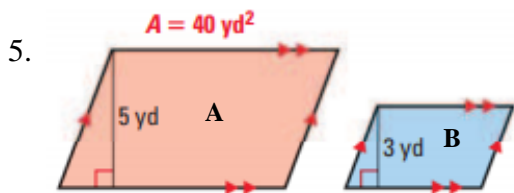
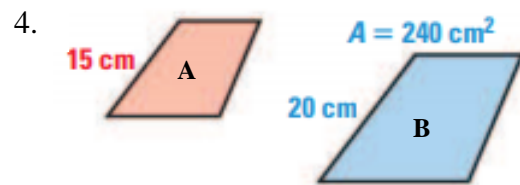
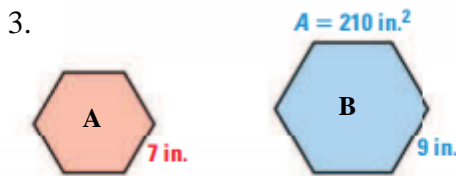
Unit 11- Worksheet #3: Perimeter and Area of Similar Figures

1. Complete the table of ratios for similar polygons.

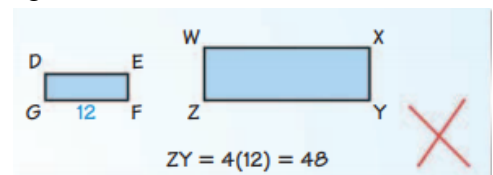
Ratio of corresponding side lengths	Ratio of Perimeters	Ratio of Areas
6:11		
	20:36=	
		64:81
		98:32

2. Two regular n-gons are similar. The ratio of their side lengths are 3:4. Do you need to know the number of sides to find the ratio of the perimeters or the ratio of the areas of the polygons? *Explain.*

Corresponding lengths in similar figures are given. Find the ratios (A to B) of the perimeters and areas. Find the unknown area.



6. In the diagram, rectangles DEFG and WXYZ are similar. The ratio of the area of DEFG to the area of WXYZ is 1:4. Describe and correct the error in finding ZY



The ratio of the areas of two similar figure is given. Write the ratio of the lengths of corresponding sides.

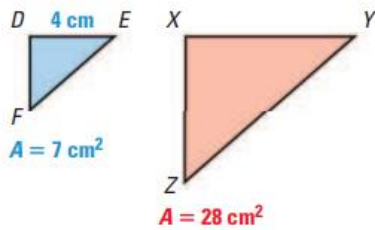
7. Ratio of Areas= 49:169

8. Ratio of Areas= 16:121

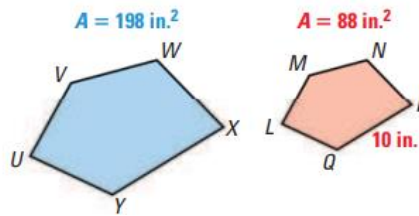
9. Ratio of Areas= 18:24

Use the given area to find XY.

10. $\triangle DEF \sim \triangle XYZ$



11. $VWXY \sim LMNPQ$

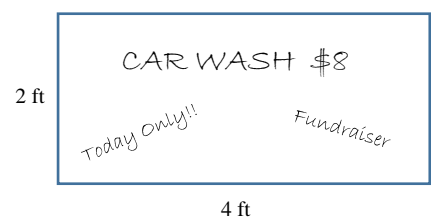


12. Regular octagon $ABCDEFGH$ has a side length of 10 millimeters and an area of 160 square millimeters. Regular octagon $JKLMNO PQ$ has a perimeter of 200 millimeters. Find its area.

13. $\triangle ABC$ and $\triangle DEF$ are similar. The height of $\triangle ABC$ is 42 inches. The base of $\triangle DEF$ is 7 inches and the area is 42 square inches. Find the ratio of the area of $\triangle ABC$ to the area of $\triangle DEF$

14. Rectangles $ABCD$ and $EFGH$ are similar. The width of $ABCD$ is 18 centimeters and the perimeter is 120 centimeters. The length of $EFGH$ is 91 centimeters. Find the ratio of the side lengths of $ABCD$ to the side lengths of $EFGH$.

15. Your school had a car wash to raise money. A poster that was used to attract customers is shown. You decide that you will have the car wash again next year. You will have a similar poster but you will increase the length to 6 feet to try to attract more customers. Find the area of the new poster.



4 ft