Name _____ **Date** _____

LESSON 11.3

Practice B

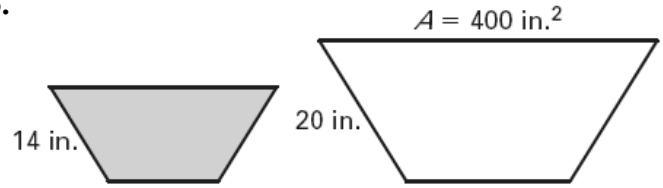
For use with pages 737–743

Complete the table of ratios for similar polygons.

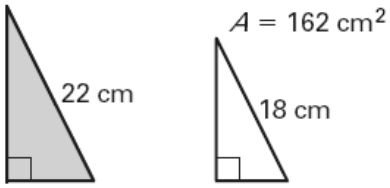
	Ratio of corresponding side lengths	Ratio of perimeters	Ratio of areas
1.	5:8		
2.		4:7	
3.			169:36
4.	66:18 = ?		

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

5.



6.



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

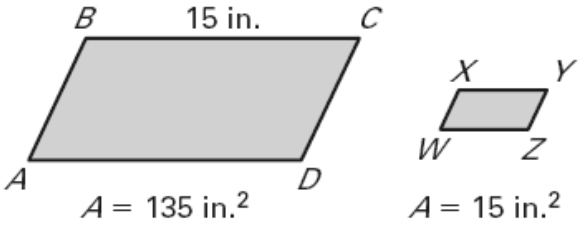
7. Ratio of areas = 16:81

8. Ratio of areas = 25:196

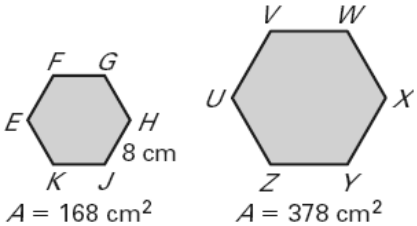
9. Ratio of areas = 144:49

Use the given area to find *XY*.

10. *ABCD* ~ *WXYZ*



11. *EFGHJK* ~ *UVWXYZ*



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

13. Kites *RSTU* and *VWXY* are similar. The area of *RSTU* is 162 square feet. The diagonals of *VWXY* are 32 feet long and 18 feet long. Find the area of *VWXY.* Then use the ratio of the areas to find the lengths of the diagonals of *RSTU.*

14. Δ*ABC* and Δ*DEF* are similar. The height of Δ*ABC* is 42 inches. The base of Δ*DEF* is 7 inches and the area is 42 square inches. Find the ratio of the area of Δ*ABC* to the area of Δ*DEF.*

15. 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.*

16. You are comparing the two rugs shown below. You want to be sure that the large rug is priced fairly. The price of the small rug is $84. The price of the large rug is $210.

a. What are the areas of the two rugs? What is the ratio of the area of the small rug to the area of the large rug?

b. Compare the rug costs. Do you think the large rug is a good buy? *Explain.*