**10.** The areas of two circles are 36π and 64π. What is the ratio of the diameters? of the circumferences?

11. L, M, and N are the midpoints of the sides of $\triangle ABC$. Find the ratio of the perimeters and the ratio of the areas of $\triangle LMN$ and $\triangle ABC$.

12. The lengths of two similar rectangles are x^2 and xy, respectively. What is the ratio of the areas?

Name two similar triangles and find the ratio of their areas. Then find *DE*.

13.

14.
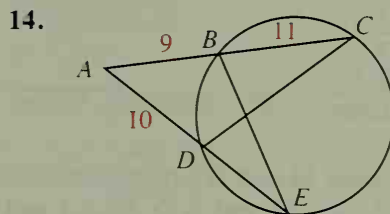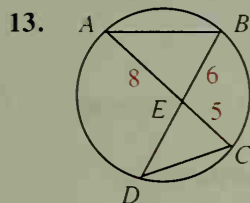
15. A quadrilateral with sides 8 cm, 9 cm, 6 cm, and 5 cm has area 45 cm². Find the area of a similar quadrilateral whose longest side is 15 cm.

16. A pentagon with sides 3 m, 4 m, 5 m, 6 m, and 7 m has area 48 m². Find the perimeter of a similar pentagon whose area is 27 m².
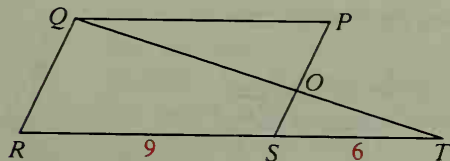
Find the ratio of the areas of triangles (a) I and II and (b) I and III. In Exercise 19(b), use the fact that Area I + Area II = Area III.
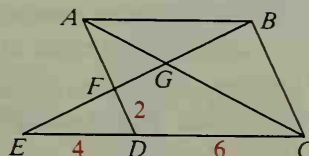
B **17.**

18.

19.
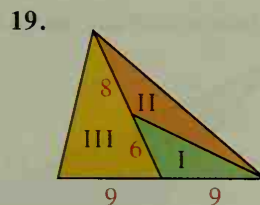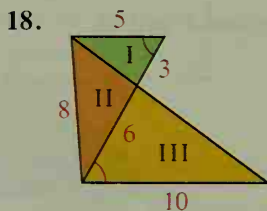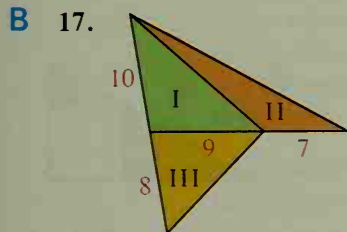
20. In the diagram below, *PQRS* is a parallelogram. Find the ratio of the areas for each pair of triangles.
   a. $\triangle TOS$ and $\triangle QOP$ **b.** $\triangle TOS$ and $\triangle TQR$

Ex. 20

Ex. 21

21. In the diagram above, *ABCD* is a parallelogram. Name *four pairs* of similar triangles and give the ratio of the areas for each pair.