

NOTES SECTION 11.7: RATIOS OF AREAS

COMPARING AREAS OF TRIANGLES

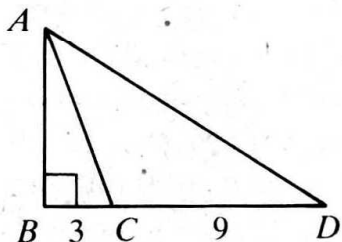
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THEOREM

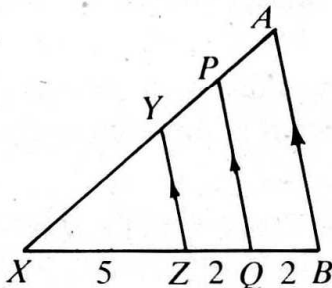
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Find the ratio of the areas of:

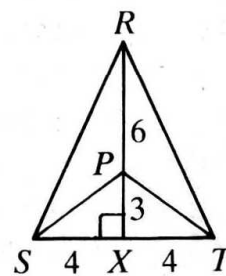
1. a. $\triangle ABD$ to $\triangle ADC$
 b. $\triangle ABC$ to $\triangle ABD$



2. a. $\triangle XYZ$ to $\triangle XPQ$
 b. $\triangle XAB$ to $\triangle XYZ$

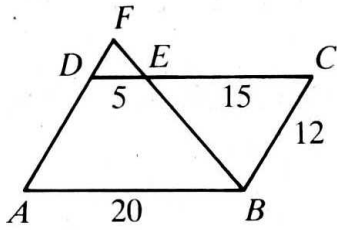


3. a. $\triangle RST$ to $\triangle PST$
 b. $\triangle XRT$ to $\triangle XPT$



a)	a)	a)
b)	b)	b)

4-5: ABCD is a parallelogram. Find each ratio.



4) $\frac{\text{area of } \triangle DEF}{\text{area of } \triangle ABF}$

5) $\frac{\text{area of } \triangle DEF}{\text{area of } \triangle CEB}$

6-12: The table refers to similar figures. Complete the table.

	6)	7)	8)	9)	10)	11)	12)
Scale Factor							
Ratio of Perimeters							
Ratio of Areas							

13) The lengths of two similar rectangles are 3 m and 7 m, respectively. What is the ratio of their areas?

14) The longest sides of two similar trapezoids have lengths $4x$ and x^2 , respectively. What is the ratio of their areas?

15) Two circles have radii 8 cm and 12 cm, respectively. Find the ratio of the circumferences and the ratio of the areas. (all circles are similar)

16) The areas of two circles are 25π and 100π . (a) what is the ratio of their diameters? (b) what is the ratio of their circumferences?

17) A hexagon with sides 5 cm, 6 cm, 7 cm, 8 cm, 9 cm, and 10 cm has area 123 cm^2 . If a similar hexagon has longest side of 40 cm, what is its area?

18) Two similar triangles have corresponding sides with lengths 3 and 9. If the area of the first triangle is 12, what is the area of the second triangle?

19) Two similar triangles have areas 144 cm^2 and 169 cm^2 . If a side of the larger triangle is 26 cm, find the length of the corresponding side of the smaller triangle.