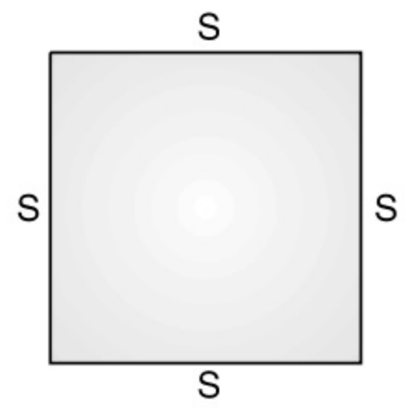
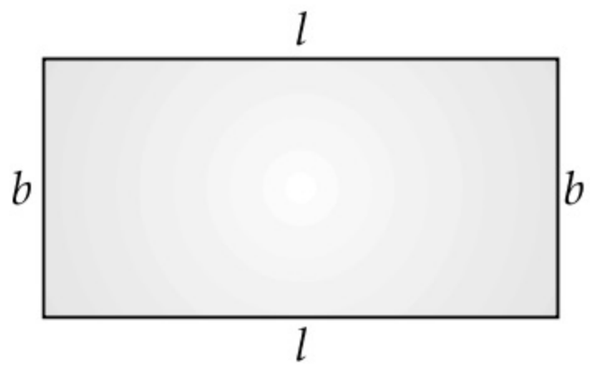
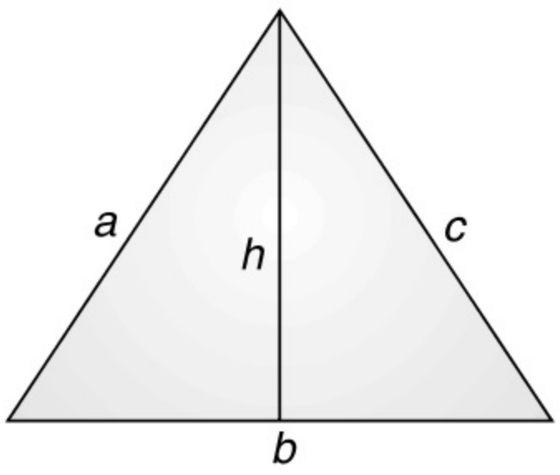
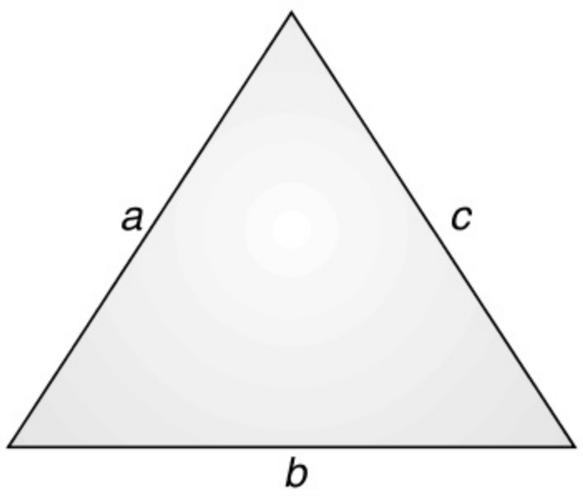
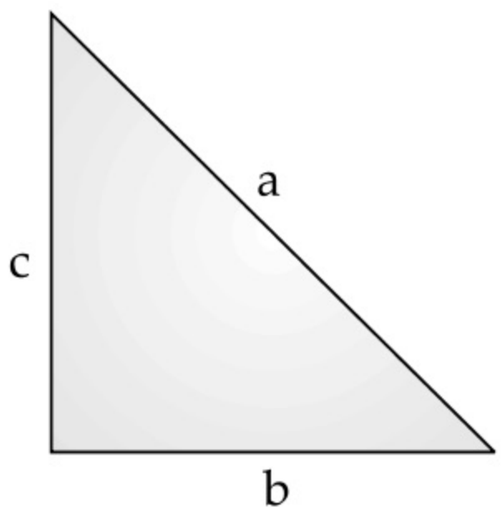
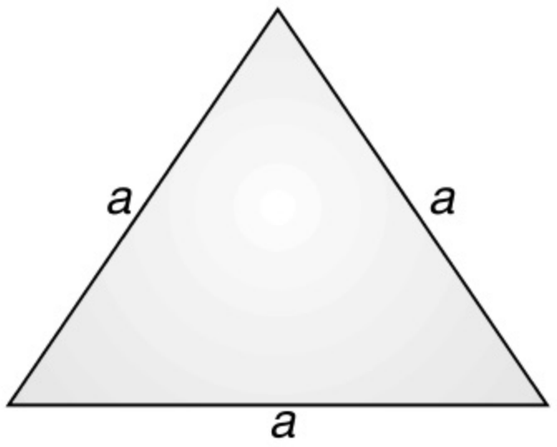
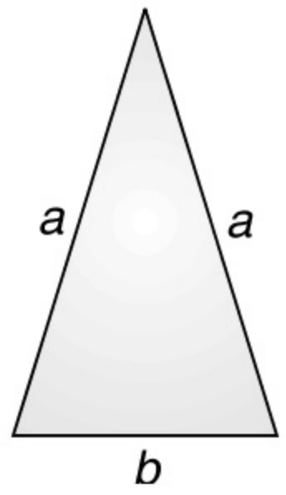
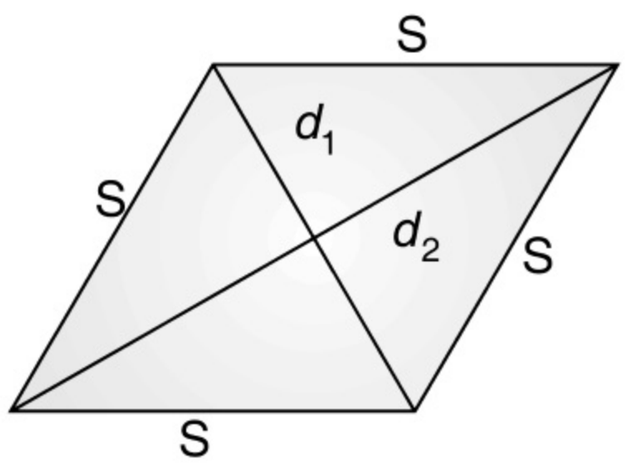
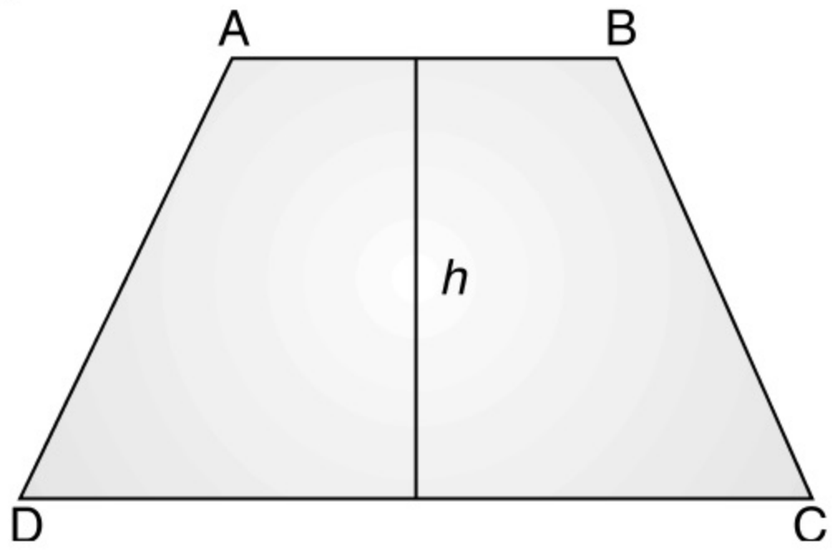
CHAPTER 12 : Areas

Object	Perimeter (Unit)	Area (Unit^2)
Square 	$4 \times \text{side} = 4s$	$\text{side}^2 = s^2$
Rectangle 	2(length + breadth) $= 2(l + b)$	length $\times$ breadth $= l \times b$
Triangle (given altitude) 	$a + b + c$	$\frac{1}{2} \times \text{base} \times \text{height}$ $= \frac{1}{2} \times b \times h$
Triangle (given all sides) 	$a + b + c$	Heron's Formula : $\sqrt{s(s-a)(s-b)(s-c)}$ where s is semi-perimeter *i.e.* $s = \frac{a+b+c}{2}$
Right Triangle 	$a + b + c$	$\frac{1}{2} \times \text{base} \times \text{perpendicular}$ $= \frac{1}{2} \times b \times c$

Equilateral Triangle  	$3a$	$\frac{\sqrt{3}}{4} \times a^2$
Isosceles Triangle  	$2a + b$	$\frac{1}{2} \times b \times \sqrt{a^2 - \frac{b^2}{4}}$
Rhombus  	$4 \times \text{side} = 4s$	$\frac{1}{2} \times (\text{product of diagonals})$ $= \frac{1}{2} \times d_1 \times d_2$
Trapezium  	Sum of all sides $= AB + BC + CD + DA$	$= \frac{1}{2} \times (AB + CD) \times h$