

**CBSE Class 09 Mathematics**

**Revision Notes**

**CHAPTER 12**

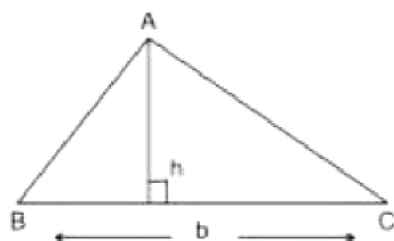
**HERON'S FORMULA**

**1. Area of a Triangle – by Heron's Formula**

**2. Application of Heron's Formula in finding Areas of Quadrilaterals**

- Triangle with base 'b' and altitude 'h' is

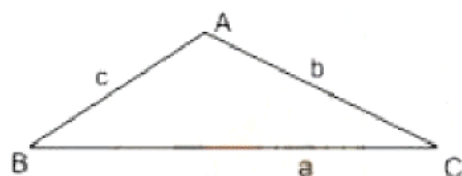
$$\text{Area} = \frac{1}{2} \times (b \times h)$$



- Area of an isosceles triangle whose equal side is  $a = \frac{a^2}{2}$  square units
- Triangle with sides a, b and c

(i) Semi perimeter of triangle  $s = \frac{a+b+c}{2}$

(ii) Area =  $\sqrt{s(s-a)(s-b)(s-c)}$  sq. unit

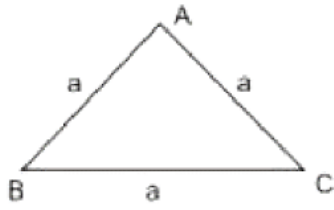


- Equilateral triangle with side 'a'

Perimeter =  $3a$  units

Altitude =  $\frac{\sqrt{3}}{2}a$  units

Area =  $\frac{\sqrt{3}}{4}a^2$  square units



- Rectangle with length  $l$ , breadth  $b$

$$\text{Perimeter} = 2(l + b)$$

$$\text{Area} = l \times b$$

- Square with side  $a$

$$\text{Perimeter} = 4a \text{ units}$$

$$\text{Area} = a^2 \text{ sq. units}$$

$$\text{Area} = (\text{Diagonal})^2 \text{ sq. units}$$

- Parallelogram with length  $l$ , breadth  $b$  and height  $h$

$$\text{Perimeter} = 2(l + b)$$

$$\text{Area} = b \times h$$

- Trapezium with parallel sides 'a' & 'b' and the distance between two parallel sides as 'h'.

$$\text{Area} = \frac{1}{2}(a + b)h \text{ square units}$$

