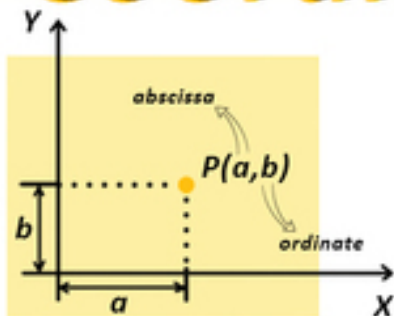
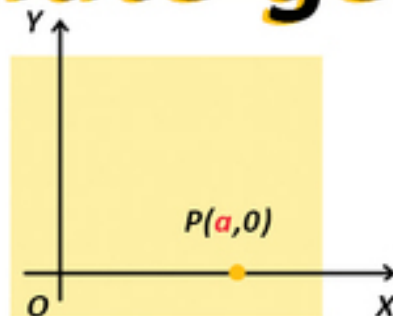


# Formulae for Coordinate geometry



Abscissa & Ordinate

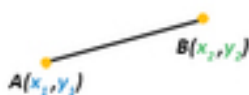


Point on x-axis



Point on y-axis

## Distance Formula



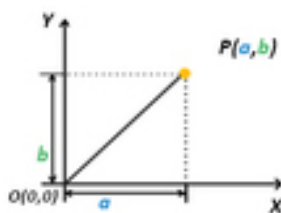
Two points

$$AB = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$



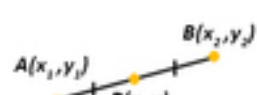
Section formula

$$P = \left( \frac{mx_2 + nx_1}{m+n}, \frac{my_2 + ny_1}{m+n} \right)$$



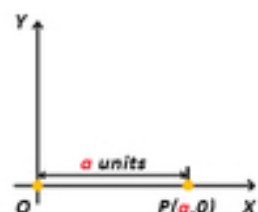
Origin & point

$$OP = \sqrt{a^2 + b^2}$$



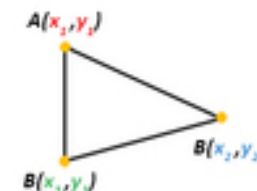
Midpoint formula

$$P = \left( \frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$



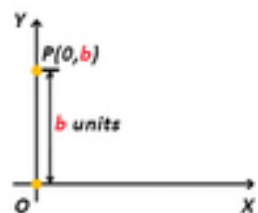
Origin & point on x-axis

$$OP = a \text{ units}$$



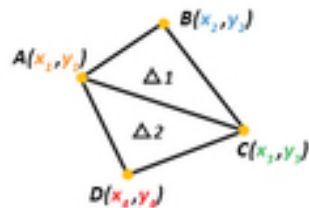
Area of Triangle

$$\Delta = \frac{1}{2} \left\{ \begin{array}{l} x_1(y_2 - y_3) \\ + x_2(y_3 - y_1) \\ + x_3(y_1 - y_2) \end{array} \right\}$$



Origin & point on y-axis

$$OP = b \text{ units}$$

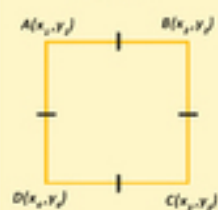


Area of Quadrilateral

$$\Delta_1 + \Delta_2$$

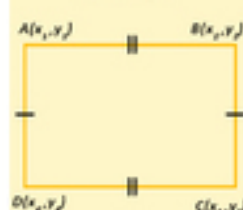
Using distance formula to identify if the given coordinates forms.

Square



$$AB = BC = CD = DA$$

Rectangle



$$AB = CD \text{ \& } AD = BC$$

Equilateral Triangle



$$AB = BC = CA$$

Isosceles Triangle



$$AC = AB$$

Right angle Triangle



$$(AB)^2 = (AC)^2 + (BC)^2$$