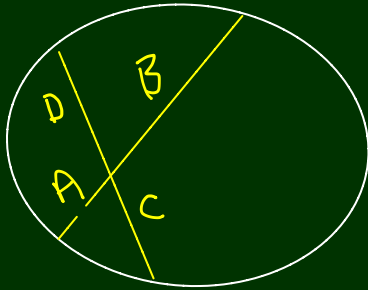


Circle Summary

- When two chords intersect, the products of their segments are equal.



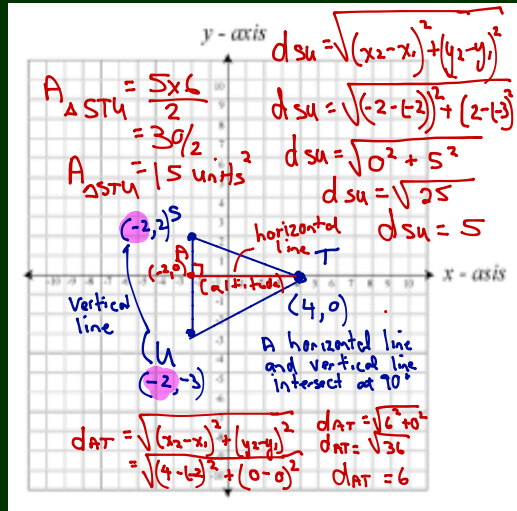
$$AB = CD$$

Example 1

- ΔSTU has vertices $S(-2, 2)$, $T(4, 0)$, & $U(-2, -3)$. Find the area of this triangle.

$$A = \frac{b \times h}{2}$$

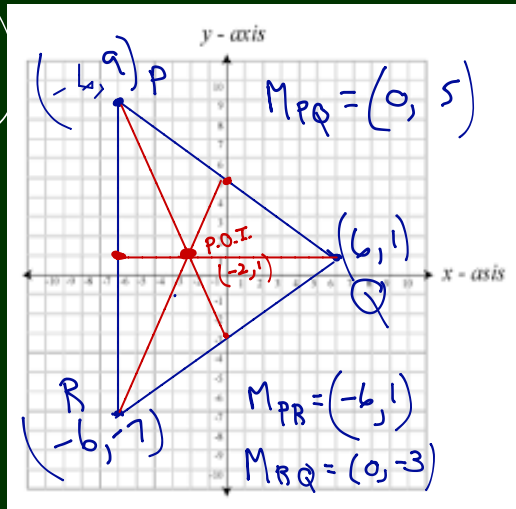
b and h are perpendicular (meet at 90°)



Example 2

- ΔPQR has vertices $P(-6, 9)$, $Q(6, 1)$, & $R(-6, -7)$. Find the coordinates of the centroid.

$$\begin{aligned}\text{Centroid} &= \left(\frac{x_1 + x_2 + x_3}{3}, \frac{y_1 + y_2 + y_3}{3} \right) \\ &= \left(\frac{-6 + 6 - 6}{3}, \frac{9 + 1 - 7}{3} \right) \\ &= \left(\frac{-6}{3}, \frac{3}{3} \right) \\ &= (-2, 1)\end{aligned}$$



Example 3

- $\triangle JKL$ has vertices $J(-2, 5)$, $K(5, -2)$, and $L(-8, -7)$. Find the coordinates of the circumcentre.

- ① Find midpoint of all sides ✓
- ② Find eqns of all perpendicular bisectors
- ③ Use 2 perpendicular bisectors to find P.O.I.
- ④ Check with 3rd

