

Honors Geometry

Notes Section 1.3

Use Midpoint and Distance Formula

VOCABULARY

Midpoint: **M;** a point that divides a segment in half.

Segment Bisector: a point, ray, line, line segment or plane that intersects a segment at its midpoint.

Midpoint Formula: **I. Number Line**

$$\frac{(\text{Endpoint} + \text{Endpoint})}{2}$$

II. Coordinate Plane

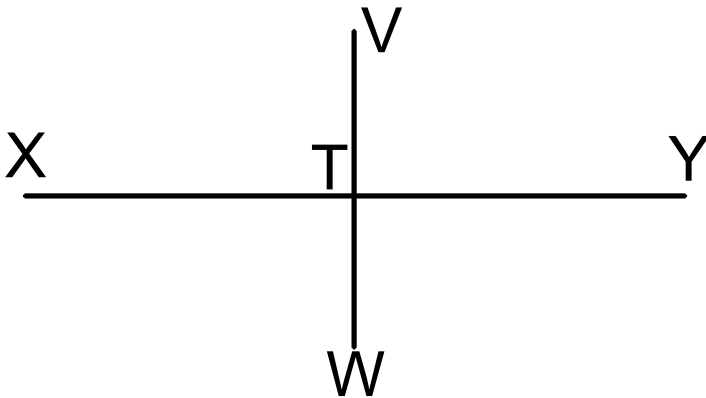
$$\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$

Distance Formula:

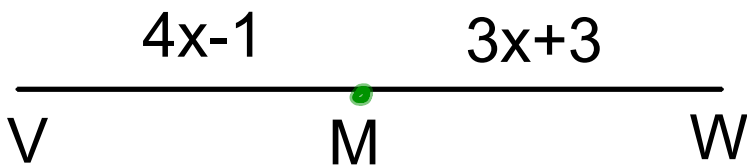
$$\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

EXAMPLES

1) **VW bisects XY at T, and $XT=39.9\text{cm}$. Find XY.**



2) **M is the midpoint of VW. Find VM.**



3a) Find the M of RS. R(1,-3) and S(4,2)

M _____

b) Find endpoint K. M(2,1) and J(1,4)

K _____

c) Find endpoint V. M(-1,-2) and W(4,4)

V _____

4a) Find RS .

$R(2,3)$ and $S(4,-1)$

b) Find AB .

$A(-3,2)$ and $B(1,-4)$