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Lakeside Academy MYP 3 - Worksheet # 202.1

Analytical Geometry: Midpoint

$$\text{Midpoint Formula : } \left( x_m = \frac{x_1 + x_2}{2}, y = \frac{y_1 + y_2}{2} \right)$$

Note:

- Questions 1 to 5: using the midpoint formula to find the midpoint coordinate.
- Questions 6 to 10: using the midpoint formula to find the endpoint coordinate.

1) Line segment  $\overline{AB}$  has the endpoints  $A(-3, 2)$  and  $B(5, 4)$ . Find the coordinate of the midpoint M.

2)  $\overline{CD}$  has the endpoints  $C(-7, -2)$  and  $D(-9, 18)$ . Find the midpoint of  $\overline{CD}$ .

3)  $\overline{EF}$  has the endpoints  $E(8, 25)$  and  $F(44, 77)$ . Find the midpoint of  $\overline{CD}$ .

- 4)  $\overline{GH}$  has the endpoints  $G(13, 12)$  and  $H(-5, 56)$ . Find the midpoint of  $\overline{CD}$ .
- 5)  $\overline{IJ}$  has the endpoints  $I(-15, 4)$  and  $J(32, -98)$ . Find the midpoint of  $\overline{CD}$ .
- 6) Line segment  $\overline{KL}$  has the endpoint  $K(9, 17)$  and the midpoint  $M(36, 25)$ .  
Find the coordinate of the endpoint  $L$ .
- 7) Line segment  $\overline{PQ}$  has the endpoint  $P(-23, 48)$  and the midpoint  $M(54, -22)$ .  
Find the coordinate of the endpoint  $Q$ .

8) Line segment  $\overline{RS}$  has the endpoint  $R(16, -3)$  and the midpoint  $M(-4, 8)$ .  
Find the coordinate of the endpoint  $S$ .

9) Line segment  $\overline{TU}$  has the endpoint  $T(-4, -5)$  and the midpoint  $M(-9, 13)$ .  
Find the coordinate of the endpoint  $U$ .

10) Line segment  $\overline{VW}$  has the endpoint  $V(8, 19)$  and the midpoint  $M(-12, 41)$ .  
Find the coordinate of the endpoint  $W$ .