

Assignment – Distance, Midpoint, and Slope Formulas

- Use the **distance formula** to find the following lengths (*remember to simplify radicals*).
 - AB, given $A(2, 5)$ and $B(3, 12)$

 - CD, given $C(-3, 2)$ and $D(4, -6)$

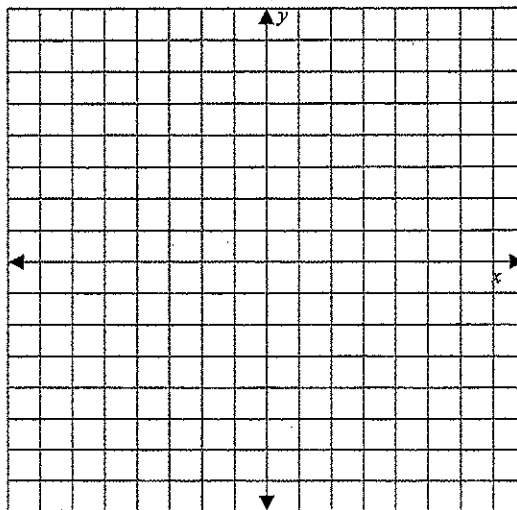
- Identify $\triangle ABC$ as *scalene*, *isosceles* or *equilateral*, given $A(-1, 7)$, $B(-2, 10)$ and $C(3, 11)$.

3. Find the **midpoint** of line segment AB, where $A(8, -12)$ and $B(-24, 4)$.

4. If $M(6, 2)$ is the *midpoint* of line segment AB, and $A(14, -6)$ is given, what are the **coordinates of point B**?

5. Given $\triangle ABC$, where $A(5, 7)$, $B(-5, -3)$ and $C(2, -4)$, find the **median** from C to line segment AB.

6. a) **Plot** the points $A(6, -1)$ and $B(-4, 7)$ on the graph and connect them to form a line segment.



- b) Calculate the **slope** of line segment AB, using $\frac{\text{rise}}{\text{run}}$ (*use arrows to show your work on the graph*).

7. a) What is the slope of a **horizontal** line?

- b) What is the slope of a **vertical** line?

- c) What will a **positive** slope look like?

- d) What will a **negative** slope look like?

8. The *slope* of line segment AB is 8. If $A(4, -9)$ and $B(-2, k)$, what values of k are possible?
9. Point P is *equidistant* from points $A(3, -4)$ and $B(-2, 6)$. If point P is on the *y-axis*, what are the coordinates of point P?