Homework: Coordinate geometry (due Thursday)

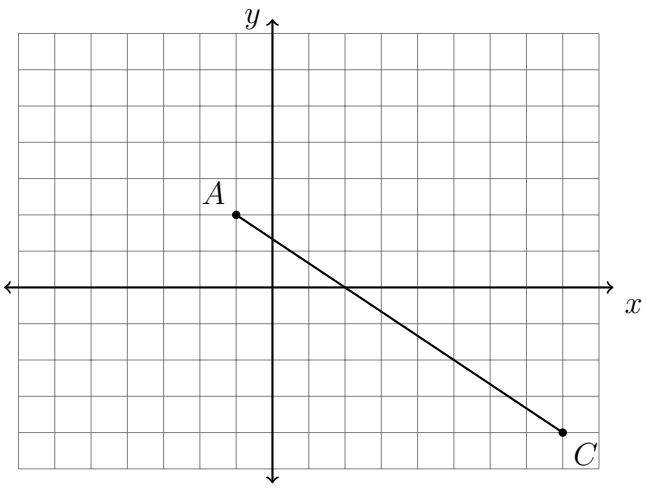
1. Find the length of $\overline{DE}$, where $D(1, -5)$ and $E(13, 0)$.

2. Determine relationship of each equation to the line $y = \frac{2}{3}x - 6$, circling either parallel, perpendicular, or neither.

   (a) $2x - 3y = 6$ Parallel Perpendicular Neither

   (b) $3x - 2y = 5$ Parallel Perpendicular Neither

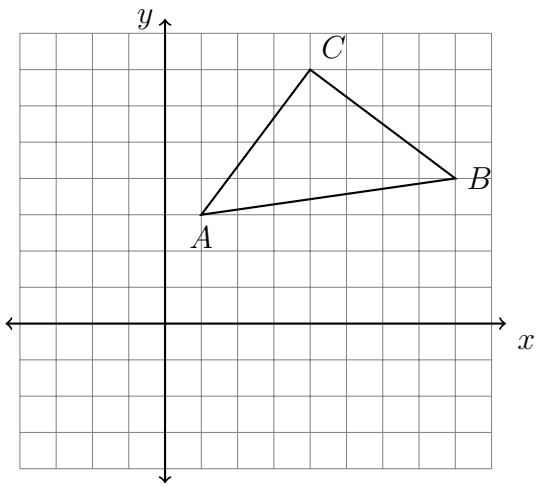
3. In the diagram below, $\overleftrightarrow{AC}$ has endpoints with coordinates $A(-1, 2)$ and $C(8, -4)$.



   If B is a point on $\overline{AC}$ and AB:BC = 1:2, what are the coordinates of B?

4. $A(2, 10)$ is one endpoint of $\overline{AB}$. The segment's midpoint is $M(5, 7)$. Find the other endpoint, B.

5. In the diagram below, $\triangle ABC$ has vertices with coordinates $A(1, 3)$, $B(8, 4)$ and $C(4, 7)$.



Find the length of each side of $\triangle ABC$, showing that it is isosceles and not equilateral.

$AC =$	$BC =$	$AB =$
$\sqrt{(x_C - x_A)^2 + (y_C - y_A)^2}$	$\sqrt{(x_C - x_B)^2 + (y_C - y_B)^2}$	$\sqrt{(x_B - x_A)^2 + (y_B - y_A)^2}$