Please have your homework on your desk. Study your flash cards with someone. Also check your homework answers with someone. Thank you!

1. C

~~2.~~

3.

A(4, 4)
B(-5, -14)
C(10, -8)

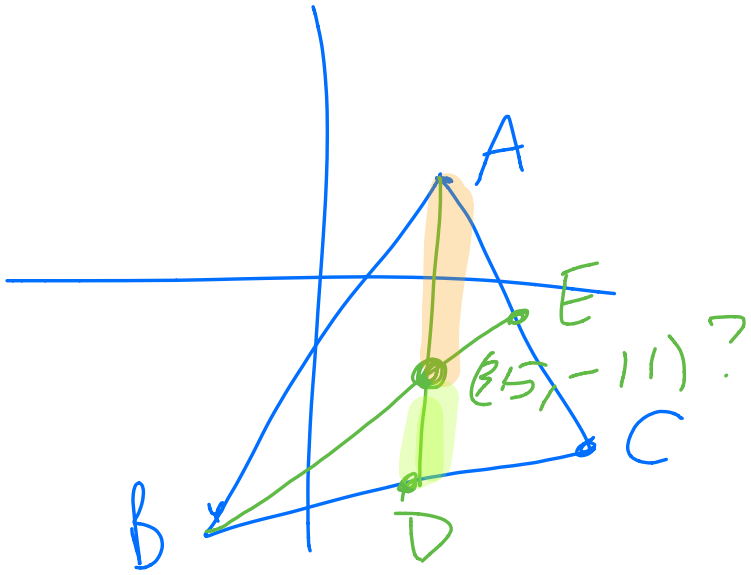
Midpoint of BC: $\left(\frac{-5+10}{2}, \frac{-14+-8}{2}\right)$

$(2.5, -11) \rightarrow D$

midpoint of AC:

$$\left(\frac{4+10}{2}, \frac{4+-8}{2}\right)$$

$$(7, -2) \rightarrow E$$



slope of BE:

$B(-5, -14)$ $E(7, -2)$

$$m_{BE} = \frac{-2 - -14}{7 - -5} = \frac{12}{12} = 1$$

Slope of AD: A(4,4) D(2.5,-11)

$$m_{AD} = \frac{-11-4}{2.5-4} = \frac{-15}{-1.5} = 10$$

Eqn of line BE $\rightarrow m_{BE} = 1$

B(-5,-14)

$$y+14 = 1(x+5)$$

$$y+14 = x+5$$

$$-14 \quad -14$$

$$\boxed{y = x-9}$$

line AD $\rightarrow$ A(4,4) $m_{AD} = 10$

$$y-4 = 10(x-4)$$

$$y-4 = 10x-40$$

$+4 \qquad +4$

$y = 10x - 36$

⑨ $\begin{cases} y = x - 9 \\ y = 10x - 36 \end{cases}$

$1x - 9 = 10x - 36$

$-10x \qquad -10x$

$-9x - 9 = -36$

$+9 \qquad +9$

$-9x = -27$

$\frac{-9x}{-9} = \frac{-27}{-9}$

$x = 3$

Plug back in to find y!

$y = 3 - 9$

$y = -6$

$(3, -6)$

(11) Use distance formula

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

with A (4,4) & centroid (3,-6)

$$d = \sqrt{(4-3)^2 + (4 - -6)^2}$$

$$d = \sqrt{1^2 + 10^2}$$

$$d = \sqrt{101}$$

$$d \approx 10.05$$

(12) Centroid: (3, −6) to

D (2.5, −11)

$$d = \sqrt{(3-2.5)^2 + (-6--11)^2}$$

$$d = \sqrt{0.5^2 + 5^2}$$

$$d = \sqrt{25.25}$$

$$d \approx 5.02$$