

* 2nd exercise:

(d): $y = -3x - 8$ *H

x	-1	-2
y	-5	-2
(x _I)	(-1, -5)	(-2, -2)

1a) placed ✓

b) let $M(x, y)$ be a pt on (AB)
So, $a_{(AM)} = a_{(AB)}$.

$$(AB): \frac{y - y_A}{x - x_A} = \frac{y_B - y_A}{x_B - x_A}$$

$$\frac{y - 2}{x} = \frac{-2}{-2}$$

$$\frac{y - 2}{x} = 1$$

Thus, (AB): $y = x + 2$.

2) I is the midpt of [BC] (given)

$$\text{So, } x_I = \frac{x_A + x_B}{2}; y_I = \frac{y_A + y_B}{2}$$

$$= +1$$

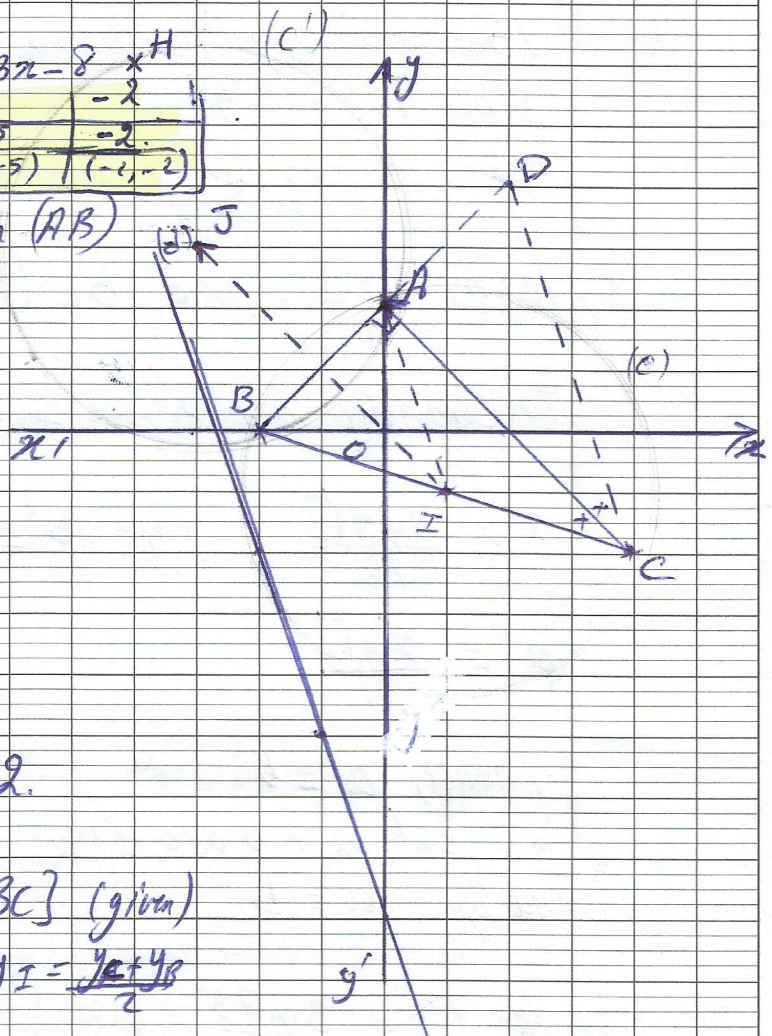
$$= -1$$

Then, I(+1, -1)

$$\begin{aligned} \text{Now, } AI &= \sqrt{(x_I - x_A)^2 + (y_I - y_A)^2} \\ &= \sqrt{(+1)^2 + (-1 - 2)^2} \\ &= \sqrt{10} \text{ cm} \end{aligned}$$

$$\begin{aligned} BC &= \sqrt{(x_C - x_B)^2 + (y_C - y_B)^2} \\ &= \sqrt{(6)^2 + (-2)^2} \\ &= \sqrt{40} \\ &= 2\sqrt{10} \text{ cm.} \end{aligned}$$

I is the midpt of [BC] (given)



So, (AI) is a median relative to longest side. but $AI = \frac{1}{2} BC$

Thus $\triangle ABC$ is right (converse of median relative to hypotenuse)