

$$\text{So, } x_E = -2$$

$$\text{Thus, } E(-2, 0)$$

F is the y-intercept of (d).

$$\text{So, } x_F = 0$$

Coordinates of F satisfy eqn of (d).

$$\text{Then, } y_F = 2x_F + 4$$

$$y_F = 4.$$

$$\text{Thus, } F(0, 4)$$

b) EA belongs to x-axis (given + proved)

$$\text{So } AO = x_A - x_O$$

$$AO = 3 \text{ cm}$$

$$\downarrow EA = x_A - x_E$$

$$= 3 - (-2)$$

$$= 5 \text{ cm}$$

c) Let $R(x_R, y_R)$ be the midpt of [EF]

$$\text{So, } x_R = \frac{x_E + x_F}{2}$$

$$= \frac{-2 + 0}{2}$$

$$x_R = -1$$

$$y_R = \frac{y_E + y_F}{2}$$

$$= \frac{0 + 4}{2}$$

$$y_R = 2$$

but $B(-1, 2)$ which are coordinates of R.

Thus, B is the midpoint of [EF].

$$4a) (AB): \frac{y - y_A}{x - x_A} = \frac{y_B - y_A}{x_B - x_A}$$

$$\frac{y - 0}{x - 3} = \frac{2 - 0}{-1 - 3}$$

$$\frac{y}{x - 3} = \frac{2}{-4}$$

$$\frac{y}{x - 3} = -\frac{1}{2}$$

$$\text{Then, } y = -\frac{1}{2}(x - 3)$$

$$\text{Thus, } (AB): y = -\frac{x}{2} + \frac{3}{2}$$