5) a) $(n)$ is $\perp$ $(AB)$ (given).
$d(AB) \perp (EF)$.
So, $(n) \parallel (EF)$ (Two st. lines in plane perp. to same st. line are parallel)

So $a_{(n)} = a_{(EF)} = 2$.
O belongs to $(n)$ (given)
So, $(n)$: $\frac{y - y_0}{x - x_0} = a_{(n)}$.

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

* Thus, $(n)$: $y = 2x$.

b) D is the intersection pt of $(n)$ & $(AB)$ (given).
So, coordinates of D satisfies both eqns of $(n)$ & $(AB)$ at same time.

$$\begin{cases} y = 2x & \dots (1) \\ y = -\frac{x}{2} + \frac{3}{2} \end{cases}$$

$y = y$

$\left(2x = -\frac{x}{2} + \frac{3}{2}\right) \times 2$.

$4x = -x + 3$

$5x = 3$

$x = \frac{3}{5}$

Sub. value of $x$ in eqn (1)

$y = 2x$

$y = 2\left(\frac{3}{5}\right)$

$y = \frac{6}{5}$.

Thus, $D\left(\frac{3}{5}, \frac{6}{5}\right)$.

c) In $\triangle$'s ADO & AEB sharing same vertex A we have:
A, O & E are collinear (all on x-axis)
A, D & B " " in this order.
$(EF) \parallel (n)$ (proved)
$(OD) \equiv (n)$.
Then, $(EF) \parallel (n)$.