

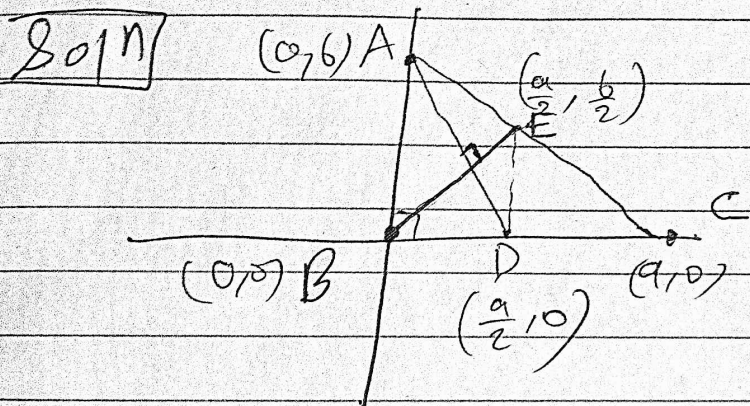
Q 3 Medians AD and BE of triangle with vertices $A(0, b)$, $B(0, 0)$, $C(a, 0)$ are mutually perpendicular if

(a) $b = a\sqrt{2}$

(b) $a = b\sqrt{2}$

(c) $b = -a\sqrt{2}$

(d) $a = -b\sqrt{2}$



$$m_{BE} \times m_{AD} = -1$$
$$\left(\frac{\frac{b}{2} - 0}{\frac{a}{2} - 0} \right) \times \left(\frac{b - 0}{0 - \frac{a}{2}} \right) = -1$$

$$\frac{2b^2}{a^2} = +1$$

$$\boxed{a = \pm \sqrt{2} b} \quad (b) (d)$$