



18th February

Given

$$f(x) = \frac{2+x}{3}$$

find

$$f(11) \quad f(11) = \frac{2+11}{3}$$

$$f(11) = \frac{13}{3}$$

Given

$$f(a) = 0$$

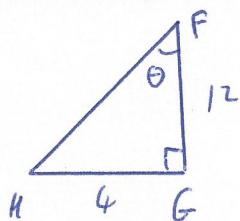
find a

$$\frac{2+x}{3} = 0$$

$$2+x = 0$$

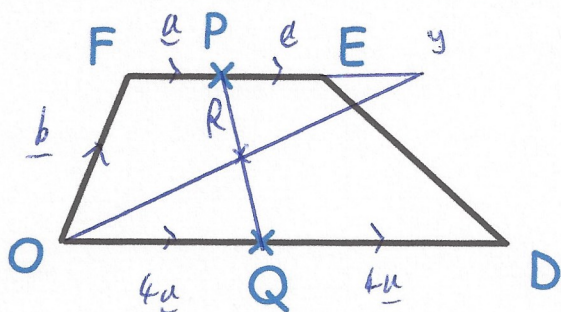
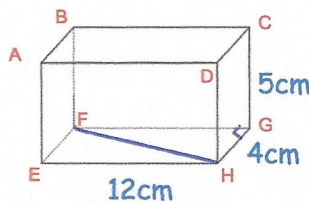
$$x = -2$$

Calculate angle HFG



$$\tan \theta = \frac{4}{12}$$

$$\theta = 18.43^\circ$$



\vec{OP}

$$\underline{b} + \underline{a}$$

$$\underline{a}$$

$$\underline{a} + \underline{b}$$

ODEF is a trapezium

Q is the midpoint of OD

$$\vec{FP} = 2a \quad \vec{OF} = b \quad \vec{OD} = 8a$$

Find in terms of a and b

P is the midpoint of FE

$$\vec{PQ} = \vec{PF} + \vec{FO} + \vec{OQ}$$

$$= -\underline{a} + (-\underline{b}) + 4\underline{a}$$

$$= 3\underline{a} - \underline{b}$$

R is the midpoint of PQ $\vec{PR} = \frac{1}{2} \vec{PQ}$

$$\vec{OR} = \vec{OF} + \vec{FP} + \vec{PR}$$

$$= \underline{b} + \underline{a} + \frac{1}{2}(3\underline{a} - \underline{b})$$

$$= 2.5\underline{a} + 0.5\underline{b}$$

The lines OR and FE meet at Y

$$\vec{OY} = \underline{5a} + \underline{b}$$

$$\vec{QY} = \vec{QO} + \vec{OY}$$

$$= -4\underline{a} + \underline{5a} + \underline{b}$$

$$= \underline{a} + \underline{b}$$