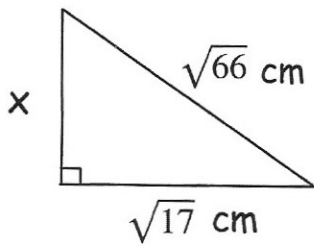




Find x



$$x^2 + (\sqrt{17})^2 = (\sqrt{66})^2$$

$$x^2 + 17 = 66$$

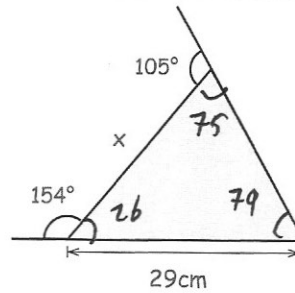
$$x^2 = 49$$

$$x = 7 \text{ cm}$$

Find the length of the side, x.

$$\frac{x}{\sin 79} = \frac{29}{\sin 75}$$

$$x = 29 \cdot 471 \text{ cm}$$



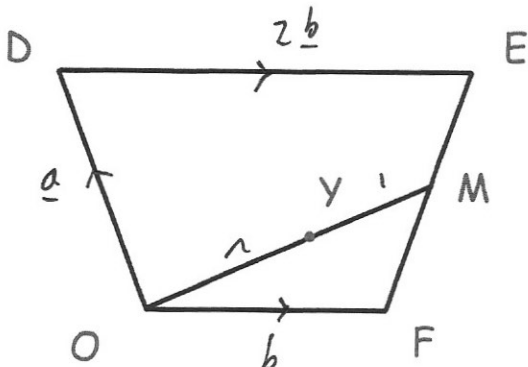
Factorise

$$2x^2 + 11xy + 15y^2$$

$$(2x + 5y)(x + 3y)$$

ODEF is a quadrilateral

$$\vec{OD} = \mathbf{a} \quad \vec{OF} = \mathbf{b} \quad \vec{DE} = 2\mathbf{b}$$



$$\vec{EF} = -\mathbf{a} - \mathbf{b} \quad \vec{EM} = -\frac{1}{2}\mathbf{a} - \frac{1}{2}\mathbf{b}$$

$$\vec{DF} = -\mathbf{a} + \mathbf{b} \quad \vec{OM} = \frac{1}{2}\mathbf{a} + \frac{3}{2}\mathbf{b}$$

M is the midpoint of EF

Y is a point on OM such that

$$OY:YM = n : 1$$

DYF is a straight line.

Work out the value of n

$$\vec{DY} = -\mathbf{a} + \frac{n}{n+1} \left( \frac{1}{2}\mathbf{a} + \frac{3}{2}\mathbf{b} \right)$$

$$\vec{DY} = \frac{-n-2}{2n+2} \mathbf{a} + \frac{3n}{2n+2} \mathbf{b}$$

$$\text{Since } \vec{DF} = -\mathbf{a} + \mathbf{b}$$

$$\frac{-n-2}{2n+2} = \frac{3n}{2n+2}$$

$$-n-2 = 3n$$

$$n = 1$$

$$\vec{OY} = \frac{n}{n+1} \left( \frac{1}{2}\mathbf{a} + \frac{3}{2}\mathbf{b} \right)$$