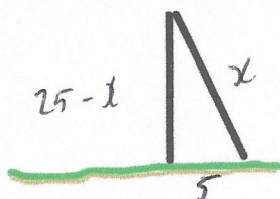


2nd September



Corbettmaths



$$5^2 + (25-x)^2 = x^2$$

$$25 + 625 - 50x + x^2 = x^2$$

$$650 = 50x$$

$$x = 13$$

A wooden flagpole is 25 foot tall. $x = 13$
 In a storm, the flagpole is broken and its top touches the ground 5 foot from the base.

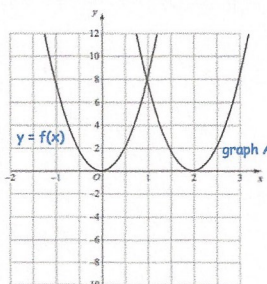
Find the lengths of the segments of the flagpole.

~~15m~~ 12m, 13m

Graph A is a translation of the graph $y = f(x)$

Write down the equation of graph A.

$$y = f(x - 2)$$



A shed has dimensions, in metres, of
 height = $\sqrt{5}$, width = $\sqrt{6}$ and length = $\frac{9}{\sqrt{2}}$

Find the volume of the shed.
 Give your answer in the form $a\sqrt{15}$, where a is an integer.

$$\sqrt{5} \times \sqrt{6} \times \frac{9}{\sqrt{2}}$$

$$= \frac{9\sqrt{30}}{\sqrt{2}} = 9\sqrt{15}$$

The circle $x^2 + y^2 = 25$ has tangents at the points A and B.

The point A has coordinates (0, 5)
 The point B has coordinates (3, -4)

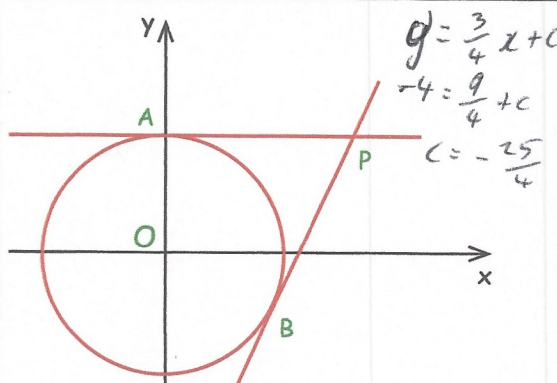
The tangents meet at the point P.

Work out the coordinates of the point P.

$$OB \text{ gradient} = -\frac{4}{3}$$

$$\text{gradient of tangents} = \frac{3}{4}$$

$$y = \frac{3}{4}x - \frac{25}{4}$$



$$g = \frac{3}{4}x + c$$

$$-4 = \frac{3}{4} + c$$

$$c = -\frac{25}{4}$$

$$5 = \frac{3}{4}x - \frac{25}{4}$$

$$\frac{3}{4}x = \frac{45}{4}$$

$$x = 15$$

(15, 5)