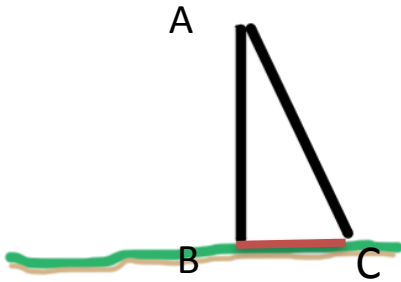


February 5<sup>th</sup>

A wooden flagpole that is 25 foot tall. 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.



$$BC = 5$$

$$AB = x$$

$$AC = (25-x)$$

Pythagoras gives:

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

Hence

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

Therefore

$$50x = 600$$

$$x = 12\text{m}$$

So

$$\mathbf{AB = 12m \quad AC = 13m}$$