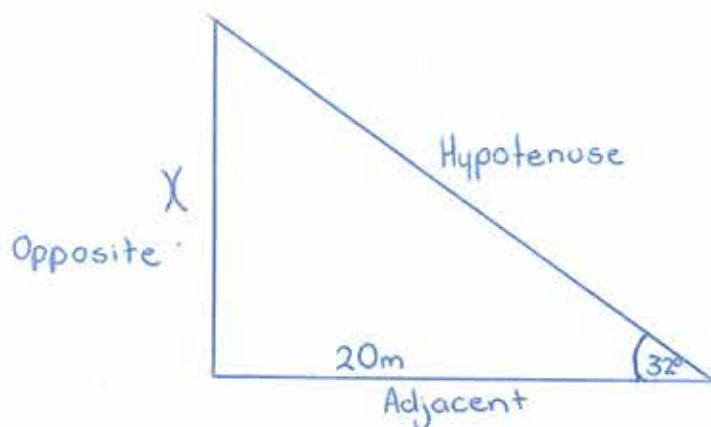
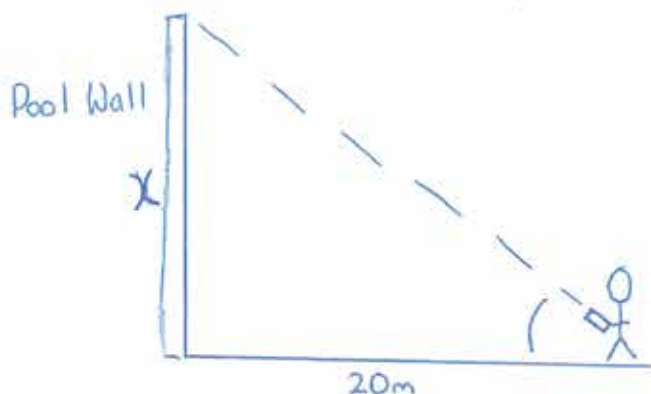


Drawing

My Trigonometry Problem



Working:

We are using adjacent measurement to find the measurement of the Opposite.

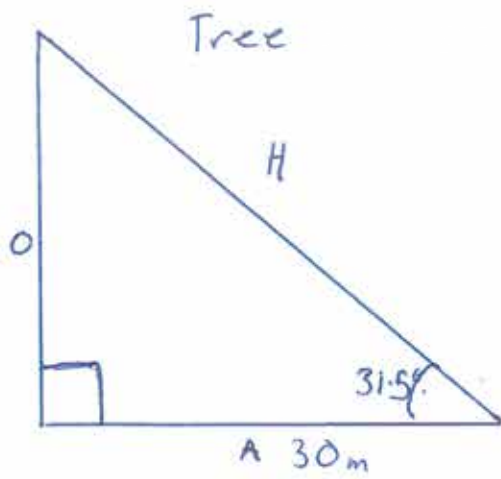
Since we are doing that, it is $\frac{o}{a} = \tan$

$$\tan(32) \times 20$$

The answer to $\tan(32) \times 20$ equals 12.5 metres.

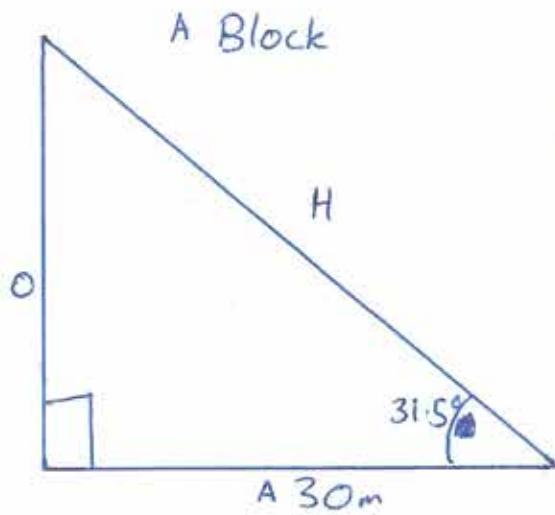
The measurement of the opposite side, the pool wall, is

12.5 metres high.



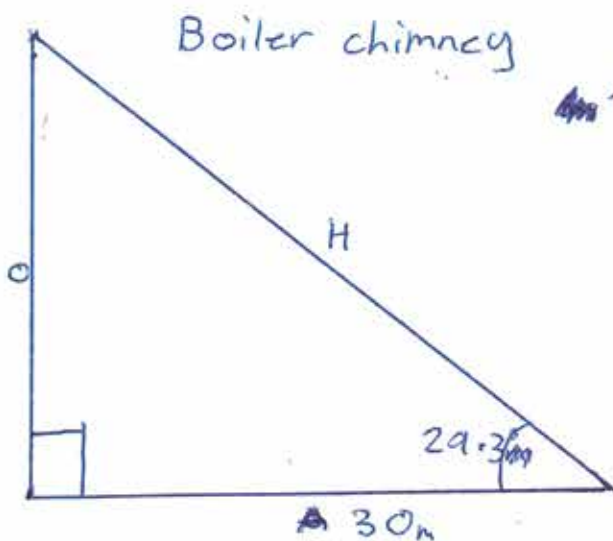
$$\tan(31.5) \times 30 =$$

Ans 18.38 m



$$\tan(31.5) \times 30 =$$

Ans 18.38 m



$$\tan(29.3) \times 30 =$$

Ans 16.83 m

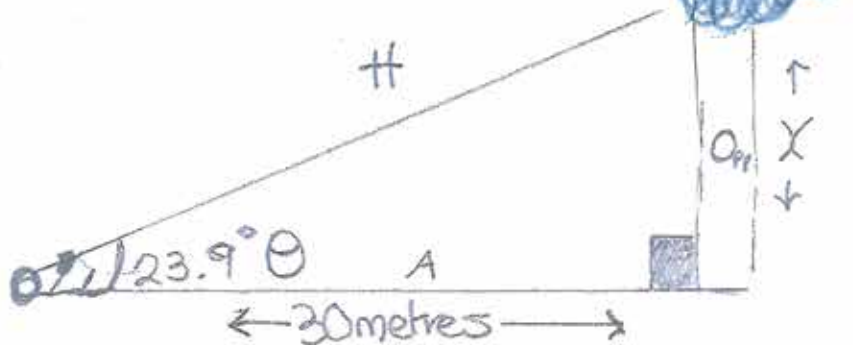
My Trigonometry

Problem.

Key

H = Hypotenuse
A = Adjacent
Opp = Opposite
 θ = angle
 $\text{Tan} = \frac{\text{opp}}{\text{adj}}$

Problem to solve



It is a tan angle because the angle is on the adjacent side and our problem we're figuring out is on the opposite side.

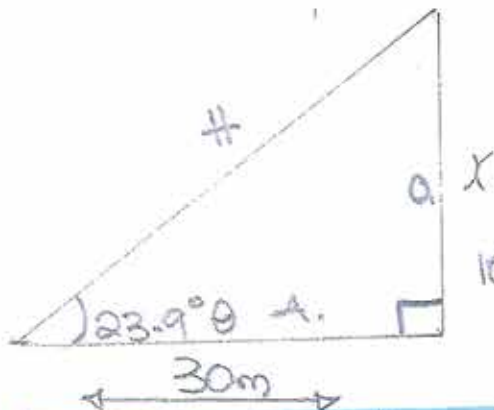
Working Out

$$\text{Tan}(23.9^\circ) = 0.4431 = \frac{30}{X}$$

$$X = 30 \times 0.4431 = 13.293 \text{ m}$$

or rounding it off to nearest 10th 13.3 metres.

$$X = 13.3 \text{ m tall}$$



Explanation

So the boiler is 13.3m tall because we are working with a tan angle. A Tan angle is when we have the adjacent & Opposite side situated with the problem. Therefore if we are finding the length of the opposite, the angle will be divided by the length of the adjacent side. We know this when the adjacent side is next to the angle of the right-angled triangle. In this case (Tan) is 0.4431 because as said we are making a comparison. See Back →

Obviously this leads us back to the beginning of the Pythagoras theorem of $a^2 + b^2 = c^2$. We would not have been able to solve these equations with right-angled triangles if it wasn't for his mathematician brain. Yes everything has a right angle when it is designed, crafted, or even hand made. So we can basically use our knowledge to solve the length height and width of something easily.

again
So the height of the boiler is 13.3m tall, worked out by measuring 30 metres out from the boiler finding the angle of the right-angled triangle using Tan to denote $\frac{\text{opp}}{\text{adj}}$. Finding the common factor multiplying that by 30m giving us the answer to our problem.