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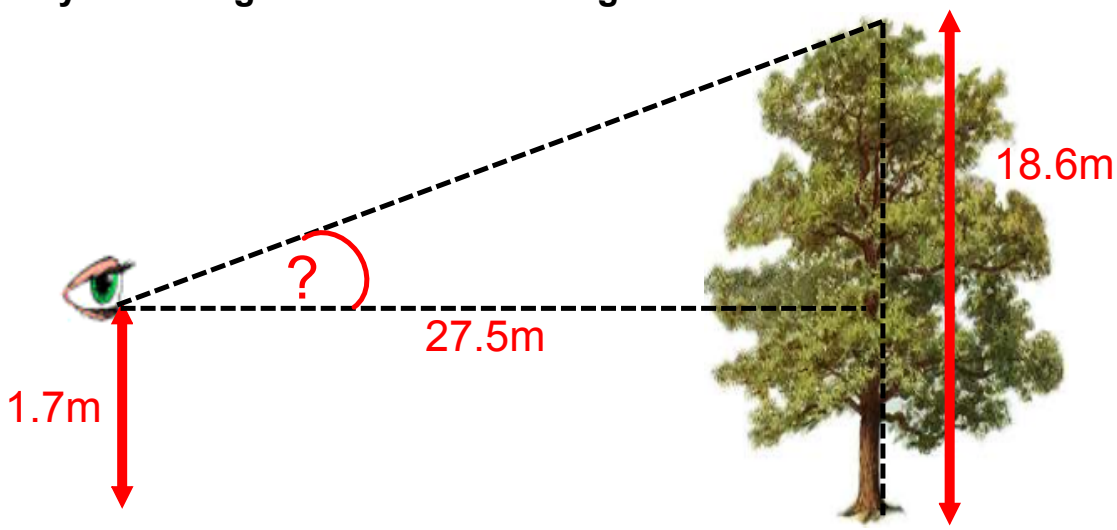

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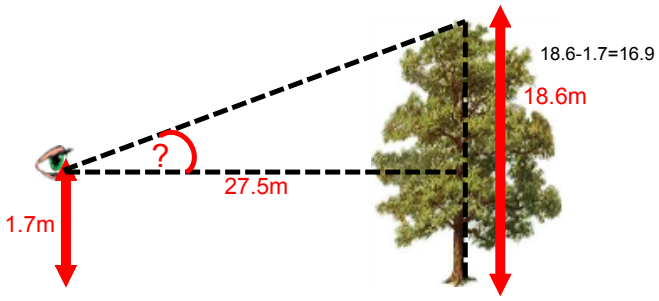


$\tan \theta = \frac{opp}{adj}$

$\tan \theta = \frac{16.9}{27.5}$

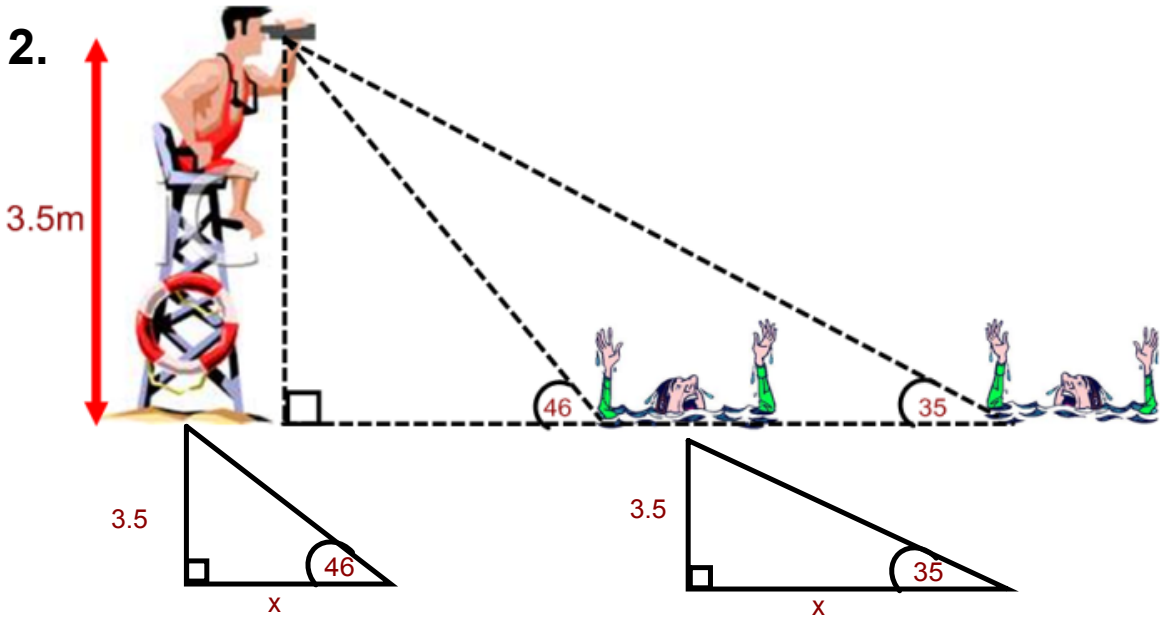
$\tan \theta = 0.6145$

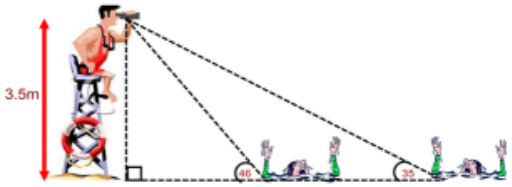
$\theta = 32$

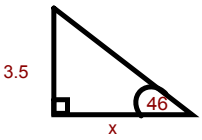
The angle of elevation is 32 degrees.

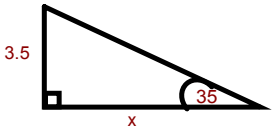
2. **From his line of sight 3.5m high, a life guard sees two people in distress. The angles of depression to the individuals are 46 and 35 respectively. What is the distance between the two people in distress?**

2.









$\tan\theta = \frac{opp}{adj}$

$\tan 46 = \frac{3.5}{x}$

$1.0355 = \frac{3.5}{x}$

$1.0355x = 3.5$

$x = 3.4$

$\tan\theta = \frac{opp}{adj}$

$\tan 35 = \frac{3.5}{x}$

$0.7002 = \frac{3.5}{x}$

$0.7002x = 3.5$

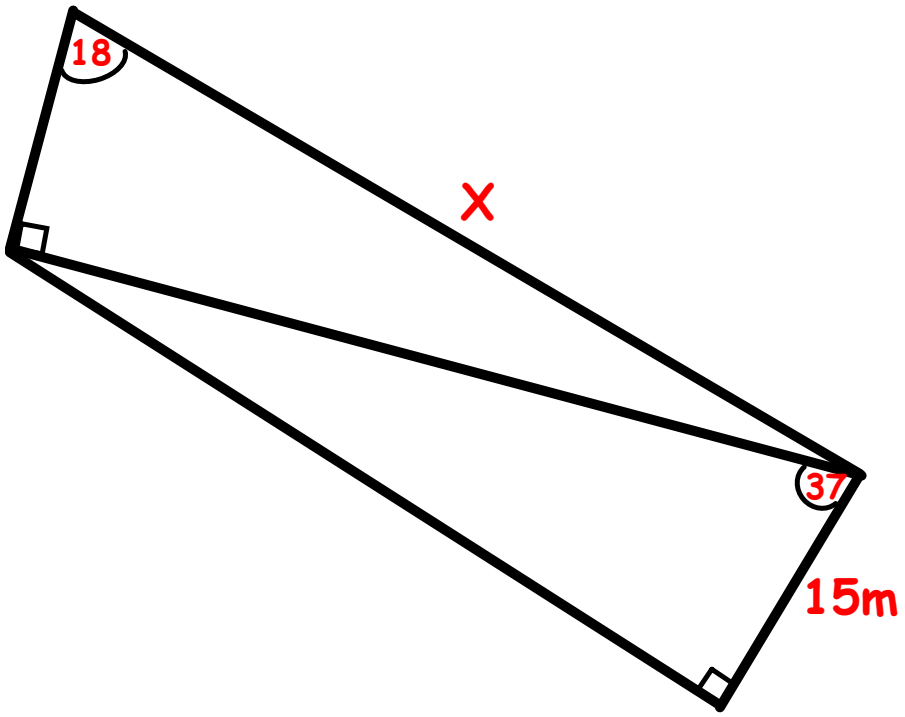
$x = 4.99857$

$x = 5$

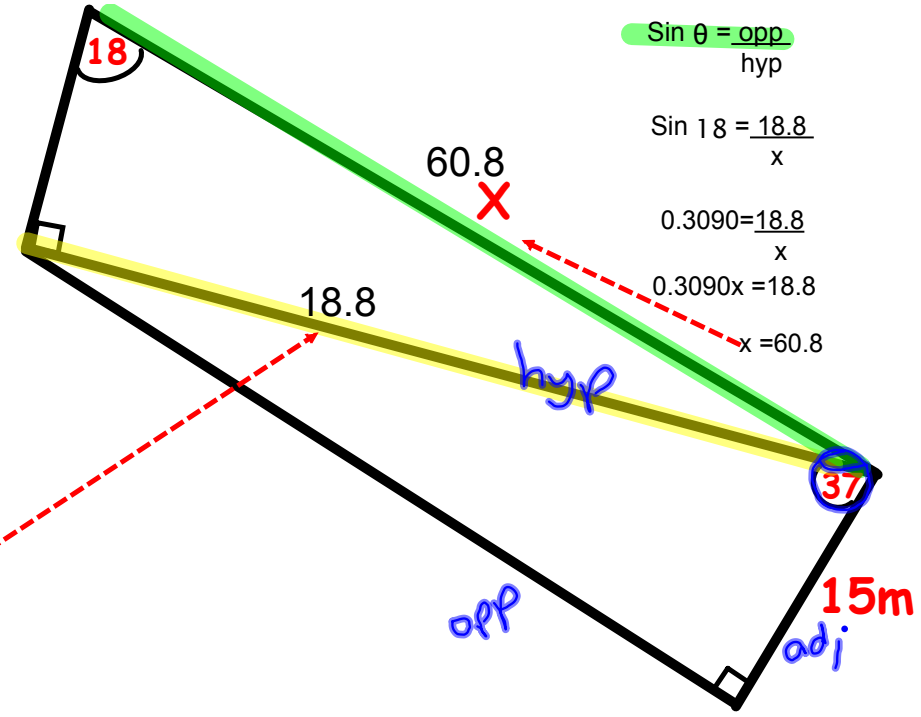
$5 - 3.4 = 1.6$

The swimmers are 1.6m apart.

3. **Find x**



3. **Find x**



Sin θ = opp / hyp

Sin 18 = 18.8 / x

0.3090 = 18.8 / x

0.3090x = 18.8

x = 60.8

Cos θ = adj / hyp

Cos 37 = 15 / x

0.7986 = 15 / x

0.7986x = 15

x = 18.8