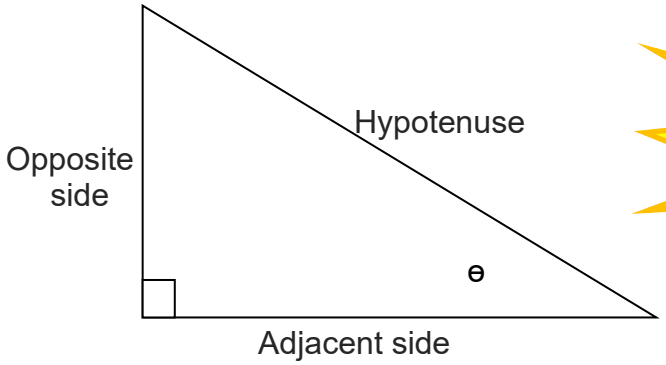
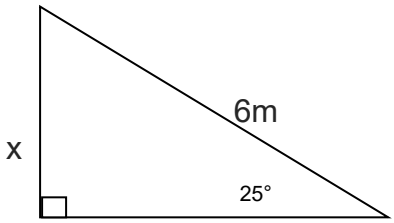
TRIGONOMETRY – SIN RULE
STEP BY STEP



Sin Θ = Opposite / Hypotenuse

FIND THE OPPOSITE SIDE (X ON THE TOP OF THE FRACTION)

Q1. A sloped support beam to the top of scaffolding is 6 metres long. It is at an angle of 25° to the horizontal. How high is the scaffolding? Complete the working below.



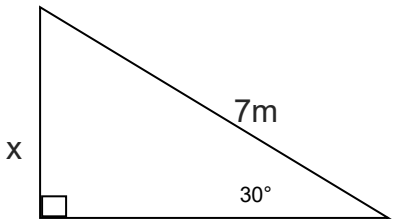
$\sin ɵ = \frac{O}{H}$

$\sin 25° = \frac{x}{6}$

$x = \sin 25° \times 6$

$x =$

Q2. A downhill oil pipeline is 7 metres long. The angle it makes with the horizontal is 30°. How high is the hill? Complete the working below.



$\sin ɵ = \frac{O}{H}$

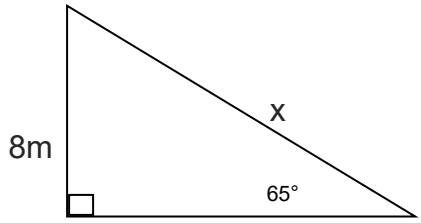
$\sin 30° = \frac{x}{7}$

$x =$

$x =$

FIND THE HYPOTENUSE
(X ON THE BOTTOM OF THE FRACTION)

Q3. The vertical beam of a ski resort roof is 8 metres long. It is at an angle of 65° to the horizontal. What is the sloped length of the roof? Complete the working below.



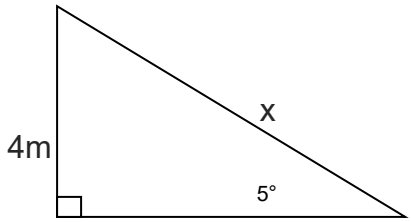
$\sin \theta = \frac{O}{H}$

$\sin 65° = \frac{8}{x}$

$x = \frac{8}{\sin 65°}$

x =

Q4. The vertical height of a wheelchair ramp is 4 metres. It is at an angle of 5° to the horizontal. What is the sloped length of the ramp? Complete the working below.



$\sin \theta = \frac{O}{H}$

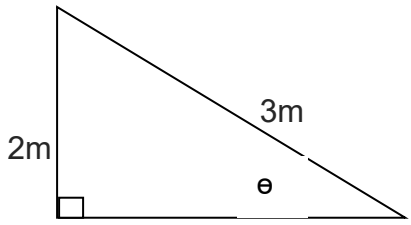
$\sin 5° = \frac{4}{x}$

x =

x =

FIND THE ANGLE

Q5. The slope of a skateboard ramp is 3 metres long. Its vertical height is 2 metres. Find the slope in degrees. Complete the working below.



$\sin \theta = \frac{O}{H}$

$\sin \theta = \frac{2}{3}$

$\theta = \sin^{-1}(2 \div 3)$

θ =