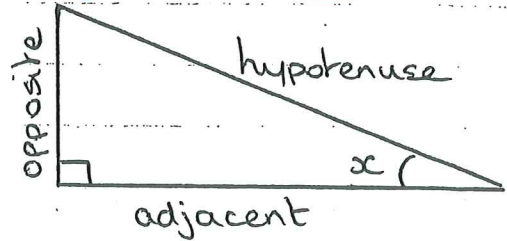
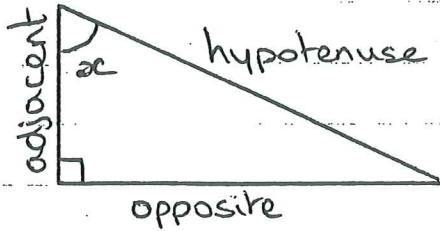


Trigonometry

Name: _____
Block: _____



Sohcahtoa

$$\sin \alpha = \frac{\text{opposite}}{\text{hypotenuse}}$$

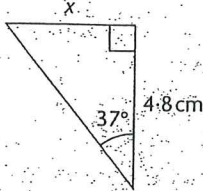
$$\cos \alpha = \frac{\text{adjacent}}{\text{hypotenuse}}$$

$$\tan \alpha = \frac{\text{opposite}}{\text{adjacent}}$$

Questions

Missing Lengths (sin, cos, tan)

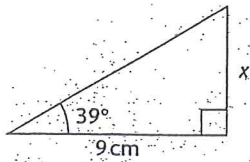
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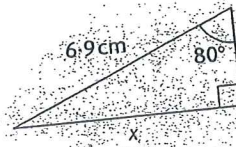
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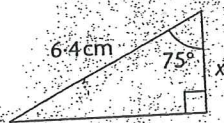
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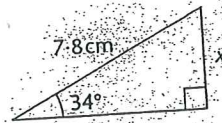
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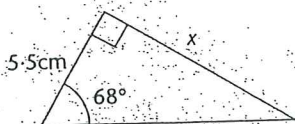
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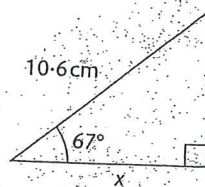
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⑦

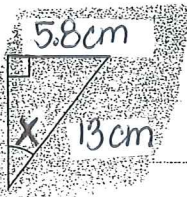


⑧



Missing Angles (\sin^{-1} , \cos^{-1} , \tan^{-1})

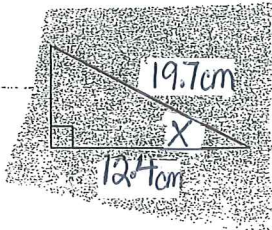
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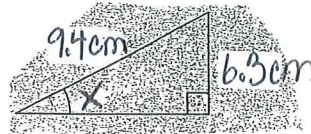
②



③



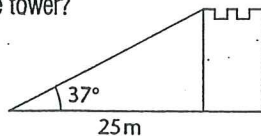
④



Worded Problems

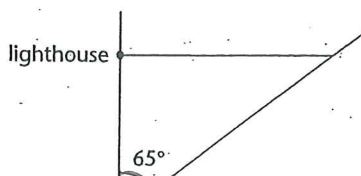
Use trigonometric ratios to solve these problems.

- A ladder of length 4.8 m rests against a vertical wall so that the base of the ladder is 1.8 m from the wall. Calculate the angle between the ladder and the ground.
- A ladder of length 5 m rests against a vertical wall. The angle between the ladder and the wall is 62° . How far up the wall does the ladder reach?
- From a distance of 25 m, the angle of elevation from the ground to the top of a tower is 37° . How high is the tower?



- A ship is due South of a lighthouse. It sails on a bearing of 065° until it is due East of the lighthouse.

If the ship is now 40 km away from the lighthouse, how far has it sailed?



Answer Key

Missing lengths:

- $x = 3.62 \text{ cm}$
- $x = 4.15 \text{ cm}$
- $x = 7.29 \text{ cm}$
- $x = 6.80 \text{ cm}$
- $x = 1.66 \text{ cm}$
- $x = 4.36 \text{ cm}$
- $x = 13.61 \text{ cm}$
- $x = 4.14 \text{ cm}$

Missing angles:

- $x = 27^\circ$
- $x = 60^\circ$
- $x = 51^\circ$
- $x = 42^\circ$

Word Problems:

- $x = 68^\circ$
- $x = 2.35 \text{ m}$
- $x = 18.84 \text{ m}$
- $x = 44.14 \text{ km}$