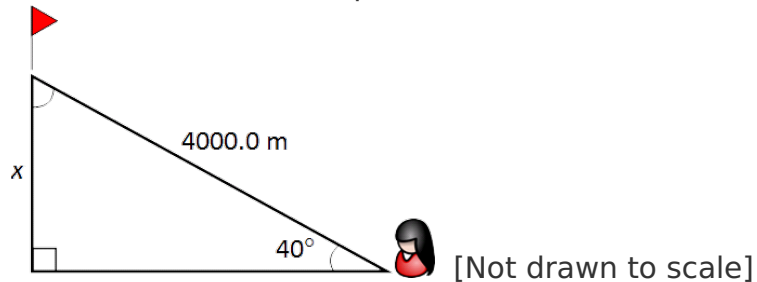


# Calculating lengths and heights

This task is about using trigonometry to find missing lengths.

Use trigonometry to solve the following problems.

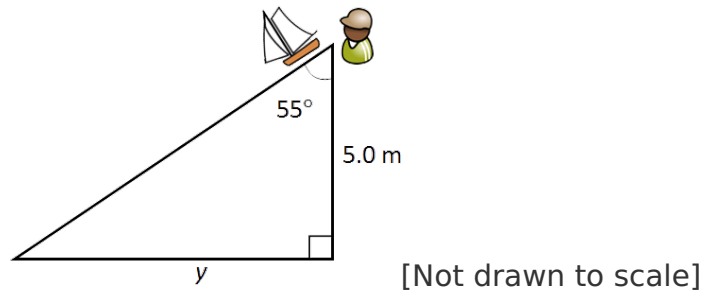
- a) Teresa took the ski lift 4000 metres to the top of Mount Herbert, at an angle of  $40^\circ$ .



Calculate  $x$ , the height of Mount Herbert. Show all your working in your calculation.

$x =$  \_\_\_\_\_ metres

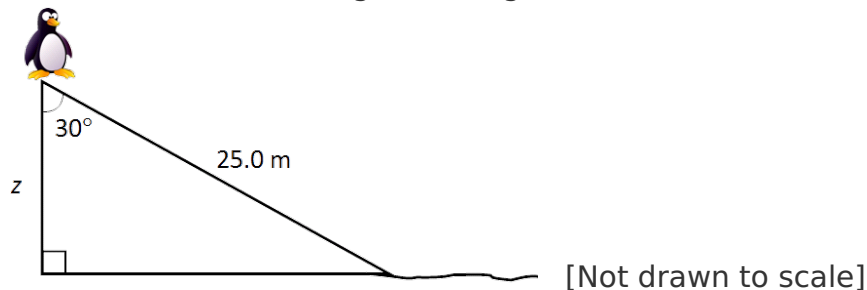
- b) Daniel's toy boat travelled 5 metres downstream at an angle of  $55^\circ$  before it reached the other side of the river.



Calculate  $y$  the width of the river. Show all your working in your calculation.

$y =$  \_\_\_\_\_ metres

- c) A penguin slid 25 metres down an iceberg at an angle of  $30^\circ$  until it reached the water.



Calculate  $z$  the height of the iceberg above the water. Show all your working in your calculation.

$z =$  \_\_\_\_\_ metres