

9.3 Homework

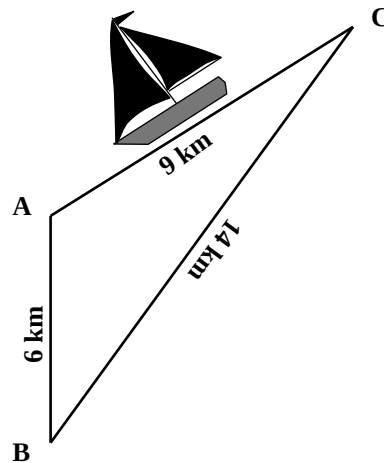
GCSE Mathematics Non-Right Angled Trigonometry

Question 1

A yacht sails 6 km due south from A to B , changes course and sails 14 km to C .

Finally, it sails 9 km back to its starting position.

The journey is shown, in sketch form, below. (NOT to scale)



Calculate the bearing that the yacht sails on when moving from B to C .

Question 2

In $\triangle ABC$, side a is of length 7 cm and side b of length 15 cm.
 $\angle C$ is **obtuse** and measures 147° .

Calculate the length of the longest side in $\triangle ABC$.

Question 3

A ship sails due south from A for a distance, c , to point B .

It then sails for 5.6 km on bearing 098° until it is at point C which is south-east of A .

- (i) Sketch the triangle, not to scale, and mark on all known lengths and angles.
- (ii) How far, as the crow flies, is the ship from A ?

Question 4

In $\triangle ABC$, $a = 4.3$ cm, $b = 6.2$ cm and $c = 5.8$ cm.

Find angle B .

Question 5

Captain Fisheye sails due south from A for 7.3 km looking for Fish Fingers.

He finds none, and so alters course to head on bearing 042° for 5.4 km.

Frozen-fingered he then decides to head back to A .

What is the total distance sailed in this fishless jaunt ?

Question 6

In $\triangle FGH$, $G = 13^\circ$, $H = 32^\circ$ and $f = 8.4$ cm.

Find the lengths of sides g and h .