

National 5 Maths

Cosine Rule: Finding a Side

SQA past paper and specimen paper
questions and answers by topic

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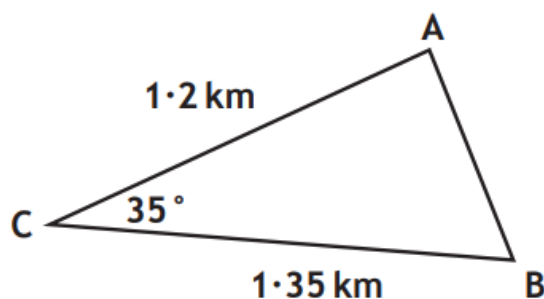
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Visit [Maths.scot](https://www.maths.scot) for full worked solutions to each of these questions.



National 5 Maths
SQA 2015 Paper 2
Question 3

Triangle ABC is shown below.



Calculate the length of AB.

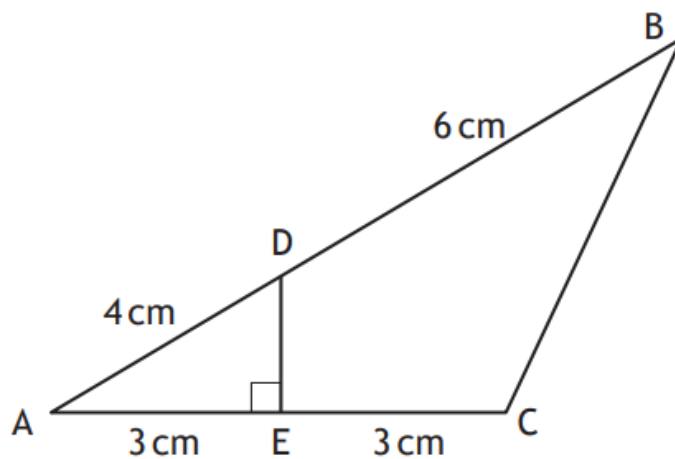
3

Answer:

0.78 km

In the diagram below:

- DE is perpendicular to AC.
- $AD = 4$ centimetres.
- $DB = 6$ centimetres.
- $AE = EC = 3$ centimetres.



Calculate the length of BC.

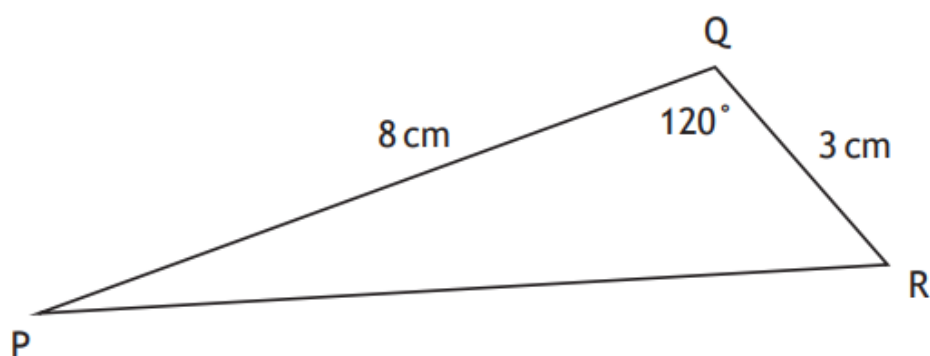
Give your answer correct to one decimal place.

4

Answer:

6.8 cm

In triangle PQR, $PQ = 8$ centimetres, $QR = 3$ centimetres and angle $PQR = 120^\circ$.



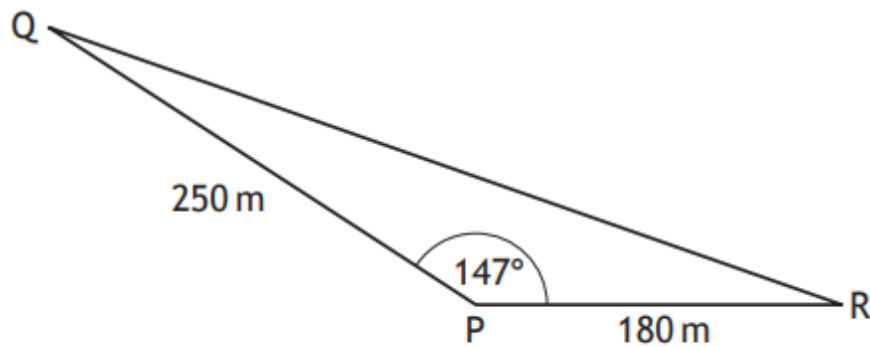
Calculate the length of PR.

3

Answer:

9.8 cm

A piece of land is in the shape of a triangle as shown.



- $PQ = 250$ metres
- $PR = 180$ metres
- $\text{angle } QPR = 147^\circ$

The owner wishes to build a fence along the side QR.

Calculate the length of the fence.

3

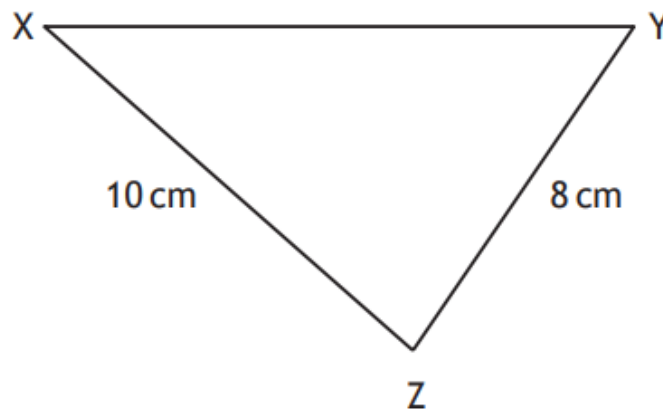
Answer:

412.8 metres

National 5 Maths
SQA 2018 Paper 1
Question 10

In triangle XYZ:

- $XZ = 10$ centimetres
- $YZ = 8$ centimetres
- $\cos Z = \frac{1}{8}$.



Calculate the length of XY.

3

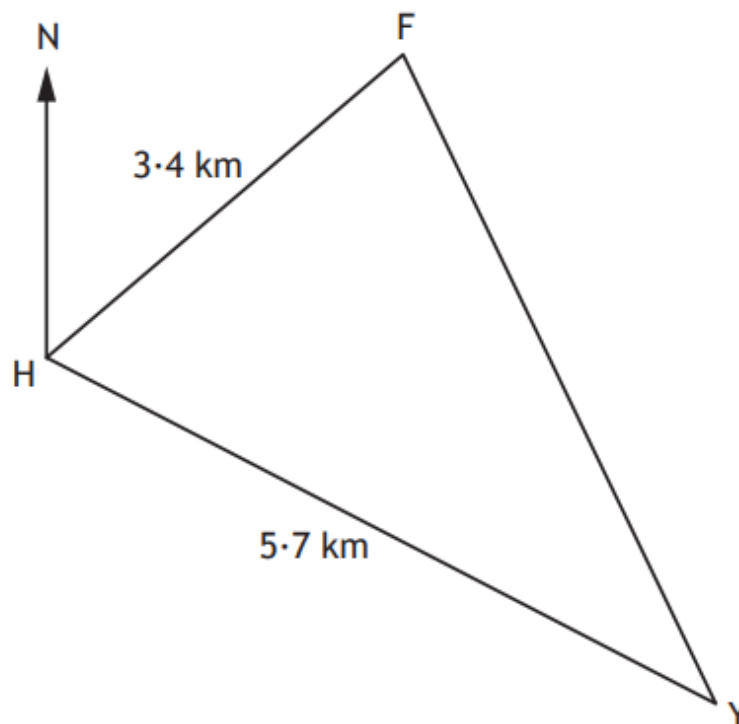
Answer:

12 cm

A fishing boat and a yacht left a harbour at the point H.

The fishing boat travelled 3.4 kilometres on a bearing of 047° to the point F.

The yacht travelled 5.7 kilometres on a bearing of 115° to the point Y.



Calculate the distance between the fishing boat at F and the yacht at Y.

4

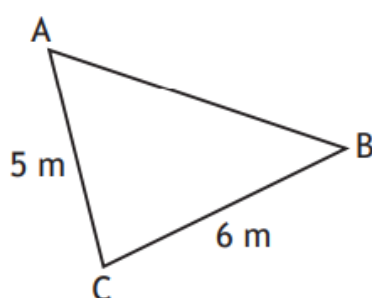
Answer:

5.4 km

National 5 Maths
SQA 2023 Paper 1
Question 6

In triangle ABC:

- $AC = 5$ metres
- $BC = 6$ metres
- $\cos C = \frac{1}{5}$.



Calculate the length of AB.

3

Answer:

7 m