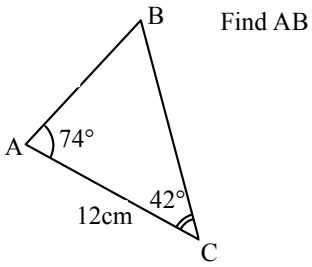
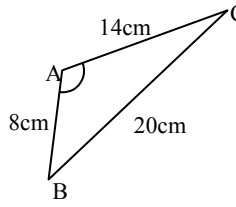
Sine and Cosine Rule

1)



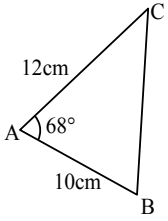
Find AB

2)



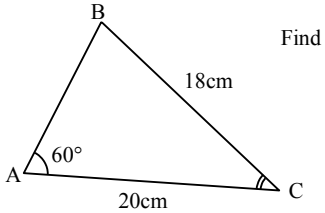
Find angle A

3)



Find BC

4)



Find angle C

5) In each of the following triangles, find the side or angle indicated.
(In one case, there are two possible answers.)

(a) ABC:	A=128°, AB=12cm, AC=9cm	Find BC
(b) PQR:	P=110°, PR=8cm, QR=14cm	Find angle Q
(c) XYZ:	Y=55°, Z=28°, XY=7cm	Find YZ
(d) DEF:	E=30°, EF=10cm, DF=7cm	Find angle D
(e) LMN:	LM=12cm, MN=5cm, LN=9cm	Find angle N

6) Two coastguard stations P and Q are 17km apart, with Q due East of P. A ship S is observed in distress on a bearing 048° from P and 324° from Q. How far is the ship from each of the coastguard stations?

7) A surveyor has to measure the sides and angles in an irregular four-sided field ABCD. She measures AB as 84m and BC as 46m, and also uses a theodolite to measure angle BAD=54°, angle ABD=42°, and angle CBD=65°. Find lengths AD, BD and CD, and angles BCD and ADC.

8) (a) Draw a line AB 8cm long. Use a protractor and compasses to construct a triangle ABC with angle $\hat{A} = 40°$ and BC 5.5cm. You should find that it is possible to draw two **different** triangles – draw both. Measure the size of angle $\hat{C}$ in each case. Is there a relationship between the two possible values for angle $\hat{C}$?
(b) Use the sine rule to calculate the size of angle $\hat{C}$. Does the rule give both possible values?

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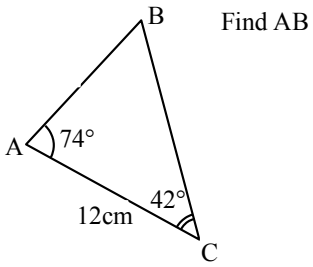
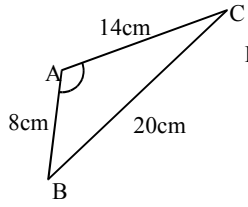


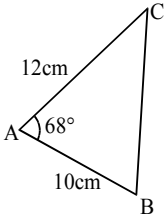
Find AB

2)



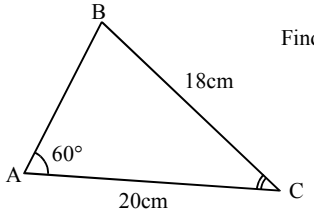
Find angle A

3)



Find BC

4)



Find angle C

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