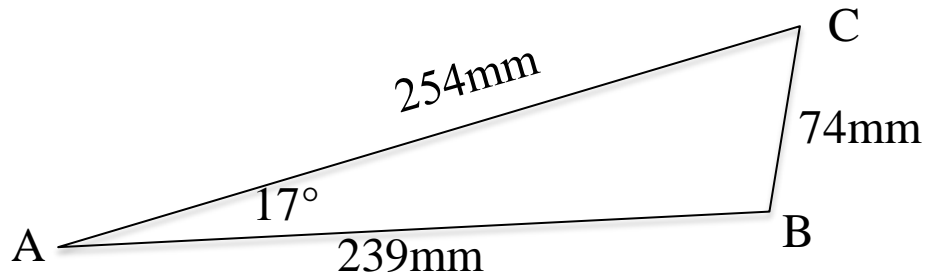


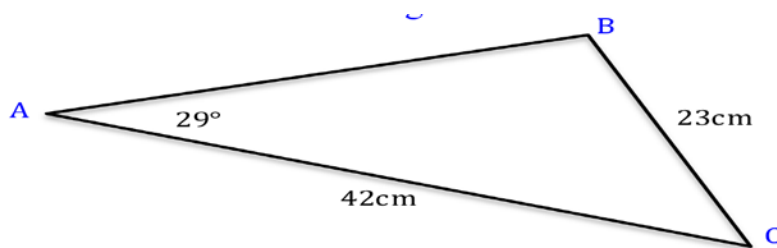
Please attempt the following questions in preparation for the online session on 16th March.

Part 1 (5 -5:30pm)
Trigonometric Rules

Q1. Calculate the area of triangle ABC.

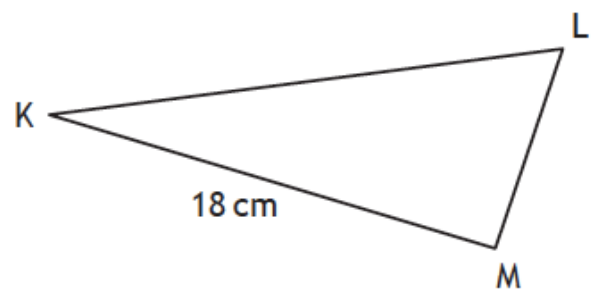


Q2. Calculate the size of the obtuse angle B.



Q3.

In triangle KLM,
KM = 18cm
 $\sin K = 0.4$
 $\sin L = 0.9$



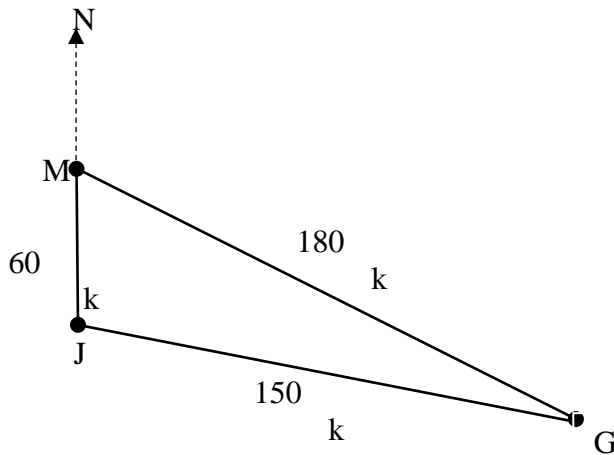
Calculate the length of LM

Q4.

The diagram shows the flight of the Loch Lomond sea plane.

It flies from Glasgow (G) for 150km to Jura (J).

It then flies North for 60km to Mull (M) before returning the 180km back to Glasgow.



Calculate the bearing of Glasgow from Mull.

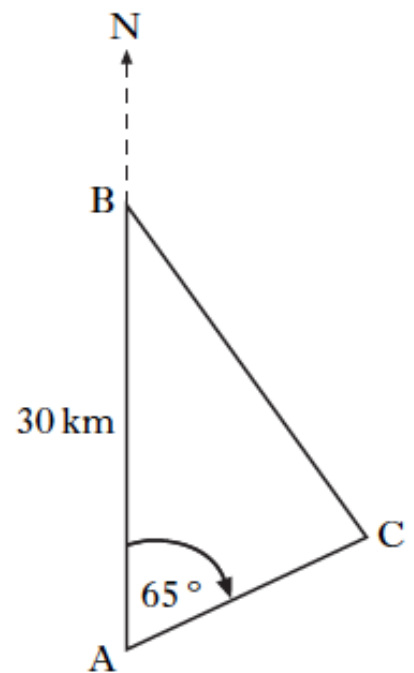
Q5.

Bamburgh is 30km due North of Amble.

From Amble, the bearing of the ship Celeste is 065° .

The bearing of the Celeste from Bamburgh is 153° .

Calculate the distance between Bamburgh and the Celeste.



Q6.

In a race, boats sail round three bouys A, B and C.

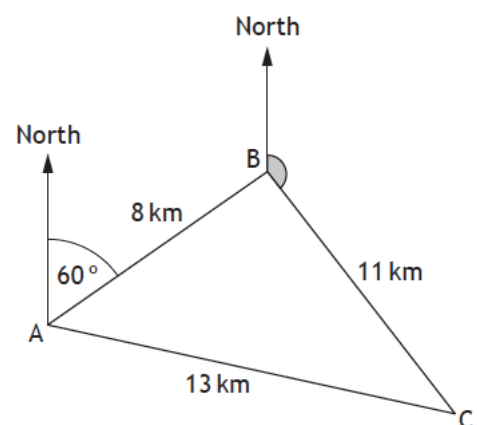
B is 8km from A on a bearing of 060°

C is 11km from B

A is 13km from C

(a) Calculate the size of angle ABC.

(b) Hence, find the bearing of C from B.



Part 2 (6-7pm)

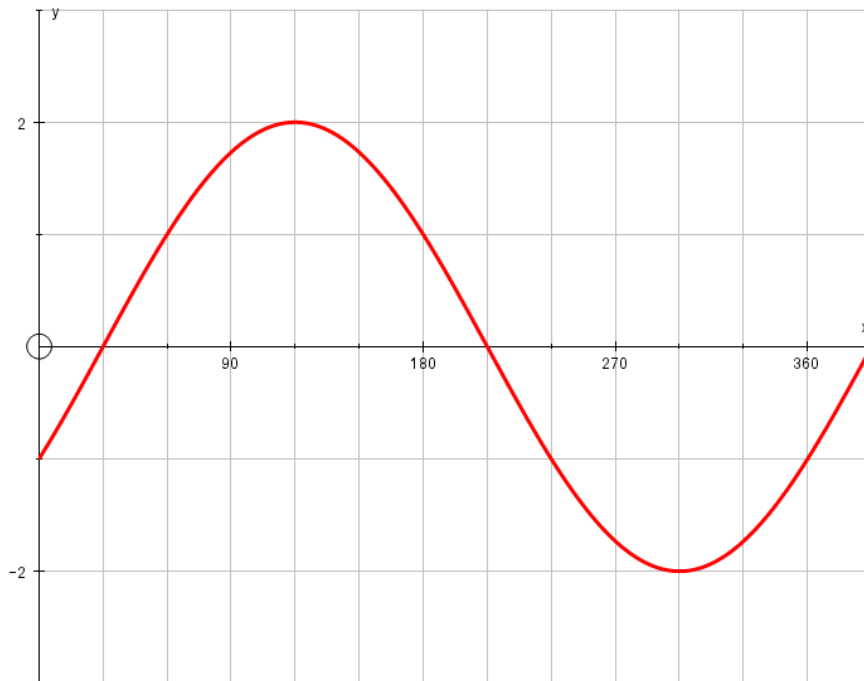
Trigonometric Equations, Graphs and Identities

Q1. Solve $2\tan x^\circ - 5 = 0$

Q2. Solve $3\sin x^\circ + 2 = 1$

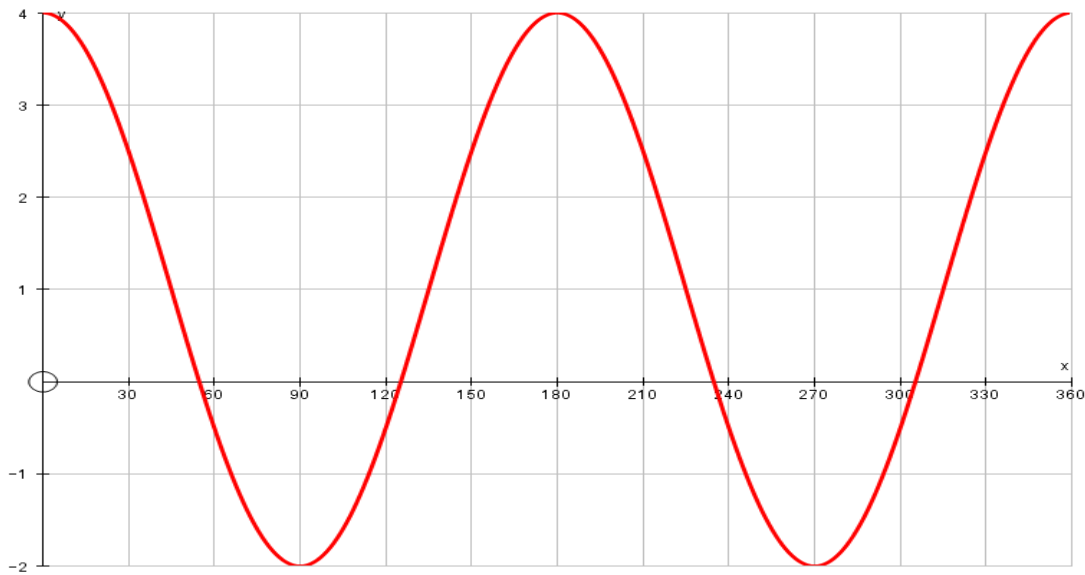
Q3. Solve $9 \cos x + 7 = 0$ for $0 \leq x \leq 360^\circ$

Q4. Part of the graph $y = a \sin(x + b)^\circ$ is shown below.
What are the values of a and b ?

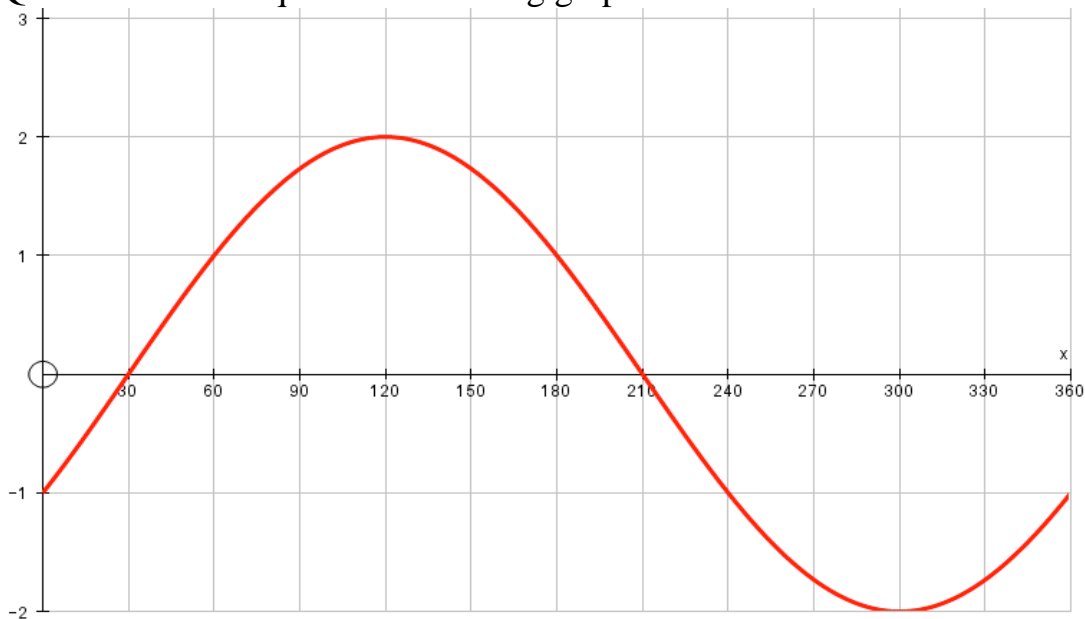


Q5. Part of the graph of $y = \cos bx + c$ is shown below.
What are the values of b & c ?

Q6. What is the equation of this trig graph?



Q7. What is the equation of this trig graph?



Q8. Write the following in order of size starting with the smallest.

$\sin 60^\circ$ $\sin 210^\circ$ $\sin 270^\circ$

Q9. Show that $(2\cos x + 5\sin x)^2 + (5\cos x - 2\sin x)^2 = 29$

Q10. Simplify $\tan^2 x \cos^2 x$.

National 5 Maths: Trigonometry