

## Sin, Cos and Tan Graphs

Please write clearly in block capitals

Forename:

Surname:

### Materials

For this paper you must have:

- mathematical instruments



You **can** use a calculator.

### Instructions

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer all questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work you do not want to be marked.

### Information

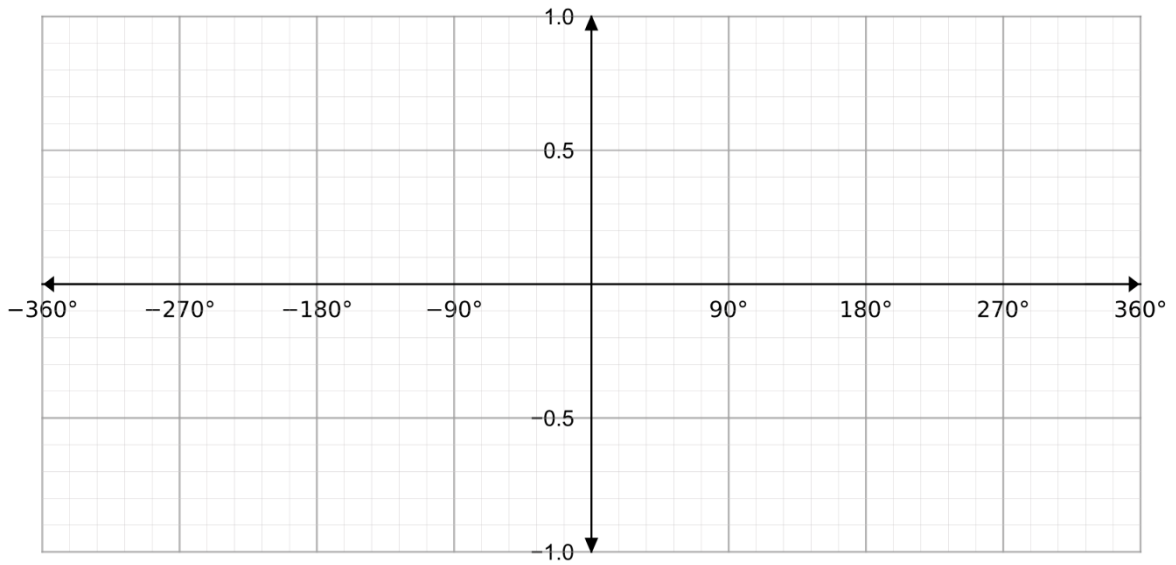
- The marks for questions are shown in brackets.
- You may ask for graph paper, tracing paper and more answer paper. These must be tagged securely to this answer book.

### Advice

- In all calculations, show clearly how you work out your answer.

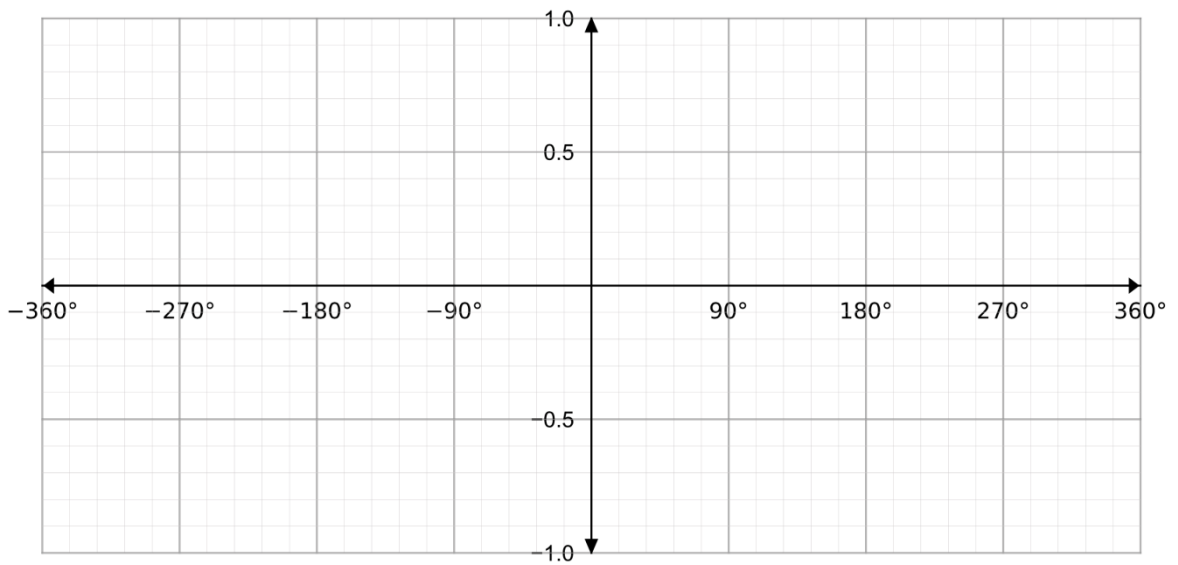
- 1 Sketch the graph of  $y = \sin(x)$  on the axes below for the region  $-360 \leq x \leq 360$ .

[2 marks]



- 2 Sketch the graph of  $y = \cos(x)$  on the axes below for the region  $-360 \leq x \leq 360$ .

[2 marks]

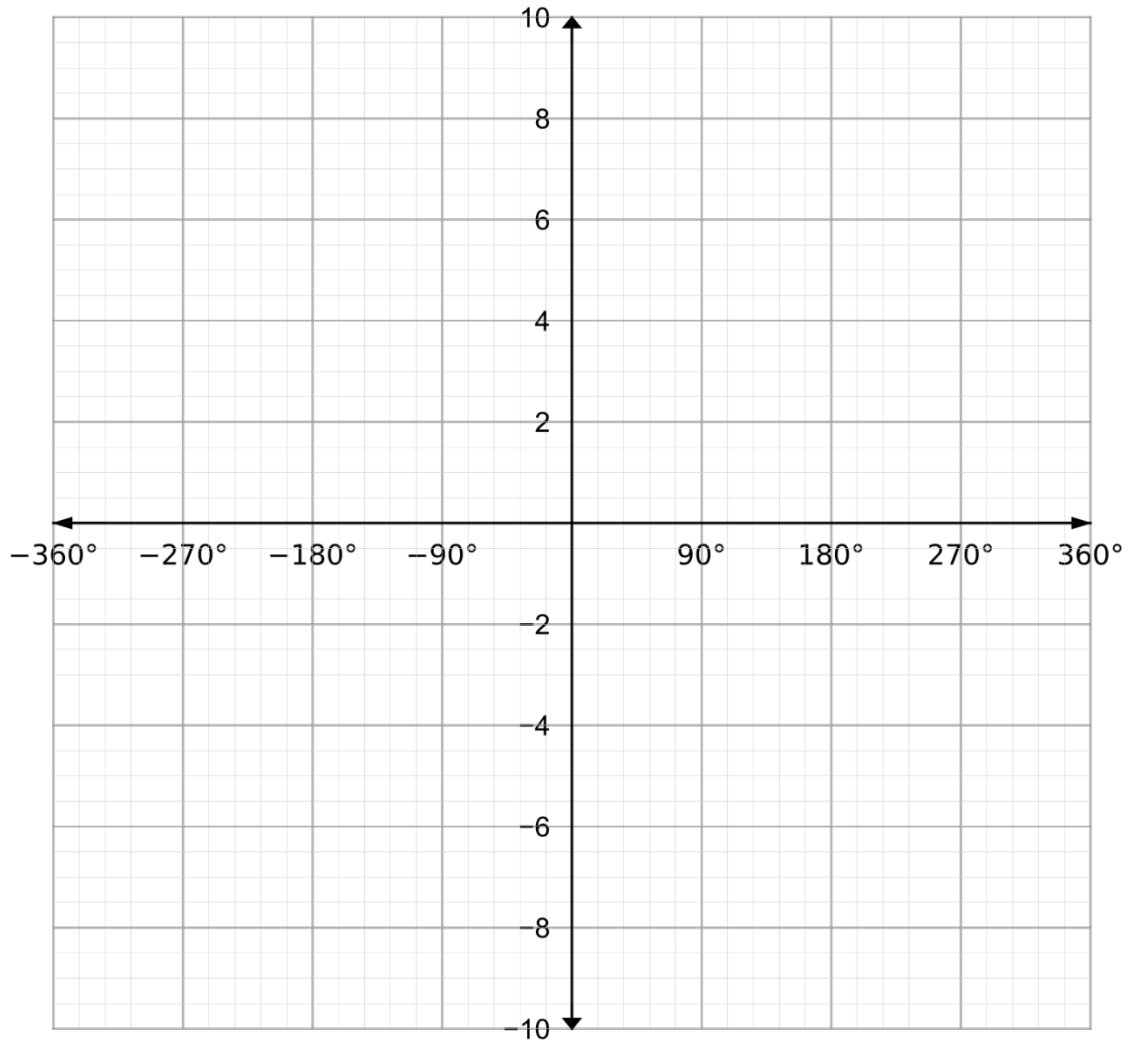


Turn over for next question

Turn over ►

3 Sketch the graph of  $y = \tan(x)$  on the axes below for the domain  $-360 \leq x \leq 360$

[2 marks]



### GCSE Maths Revision Cards

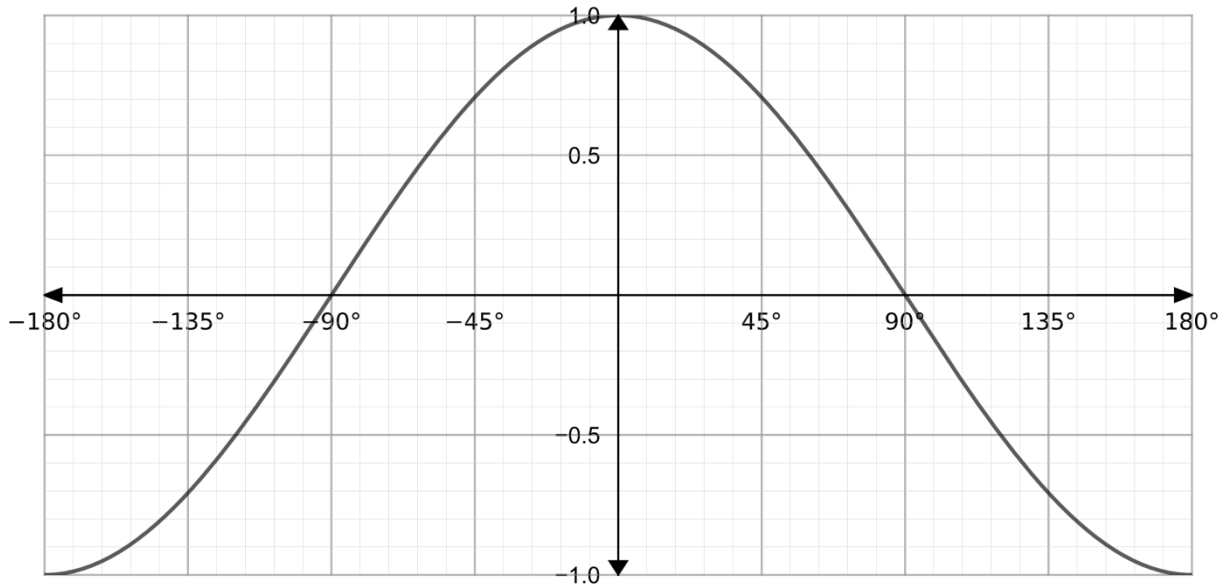
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Turn over ►

- 4 The graph of  $y = \cos(x)$  for  $-180 \leq x \leq 180$  has been drawn on the axes below.



Using the graph, find the solutions to the following equations.

4(a)

$$\cos(x) = 0$$

[1 mark]

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Answer \_\_\_\_\_

4(b)

$$\cos(x) = \frac{1}{2}$$

[1 mark]

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Answer \_\_\_\_\_

4(c)

Explain why there are no solutions to the equation  $\cos(x) = 2$ .

[1 mark]

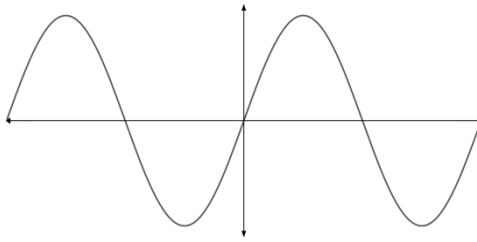
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5 For the following graphs, circle the correct function corresponding to the graph shown.

5(a)



[1 mark]

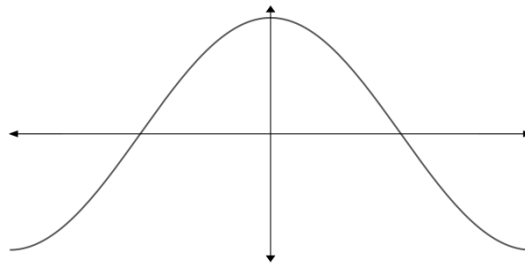
cosine

tangent

sine

none of the above

5(b)



[1 mark]

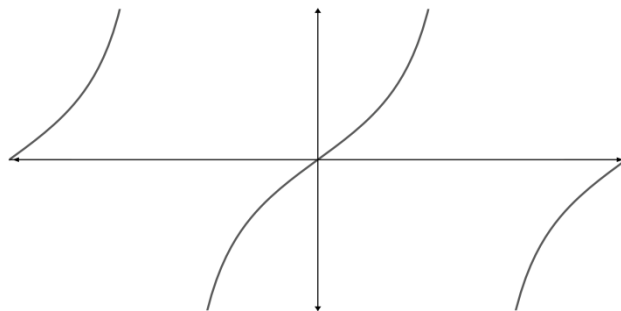
cosine

tangent

sine

none of the above

5(c)



[1 mark]

cosine

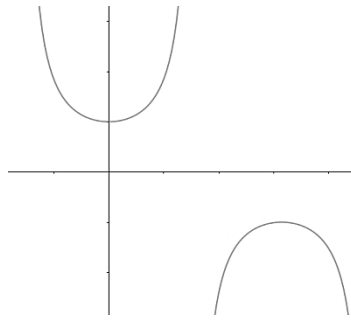
tangent

sine

none of the above

Turn over for next question

5(d)



[1 mark]

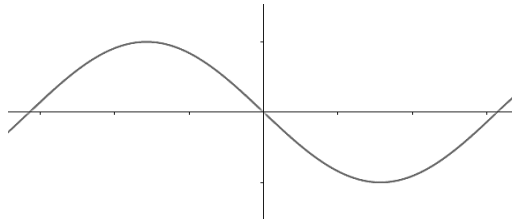
cosine

tangent

sine

none of the above

5(e)



[1 mark]

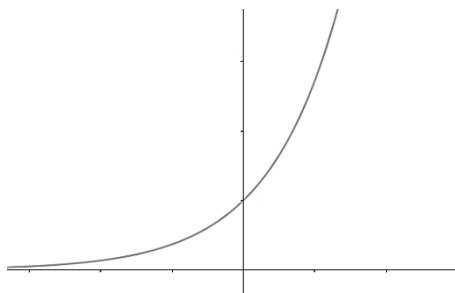
cosine

tangent

sine

none of the above

5(f)



[1 mark]

cosine

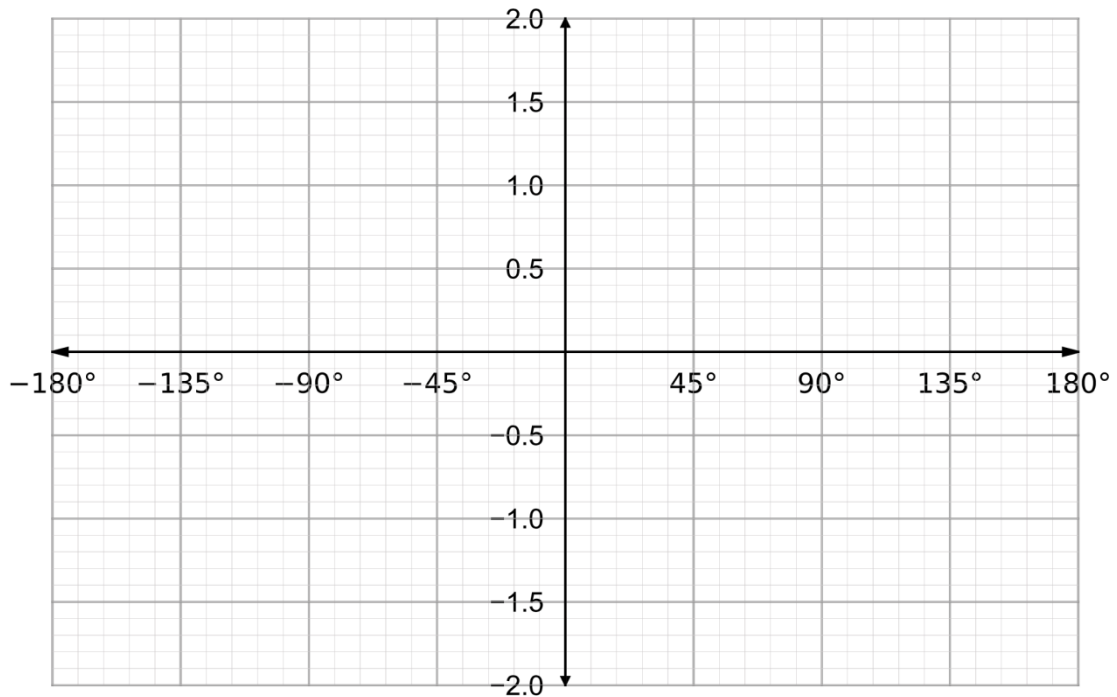
tangent

sine

none of the above

- 6 Sketch the graphs of  $y = \sin(x)$  and  $y = 2\sin(x)$  for  $-180 \leq x \leq 180$  on the axes below, making sure to label any points of intersection with the axes.

[3 marks]



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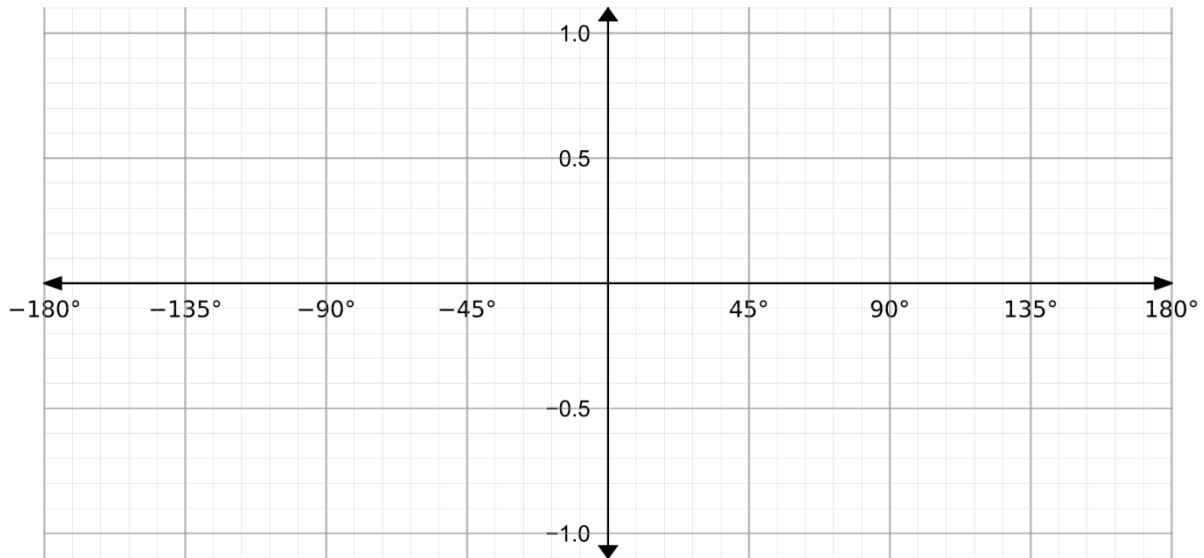
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Turn over ►

- 7 By use of a sketch, find any solutions to the equation  $\sin(x) = \cos(x)$  for  $-180 \leq x \leq 180$ .

[3 marks]



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