

Name:

Exam Style Questions

## Trigonometric Graphs



Equipment needed: Ruler, Calculator, Pencil and Pen

### Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Video Tutorial

[www.corbettmaths.com/contents](http://www.corbettmaths.com/contents)

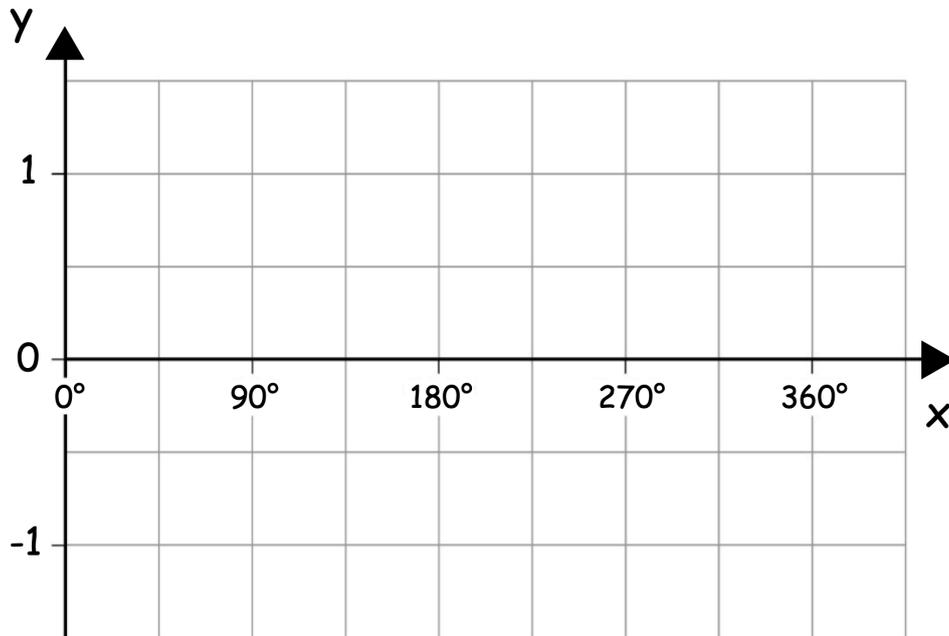
Videos 338, 339, 340



Answers and Video Solutions

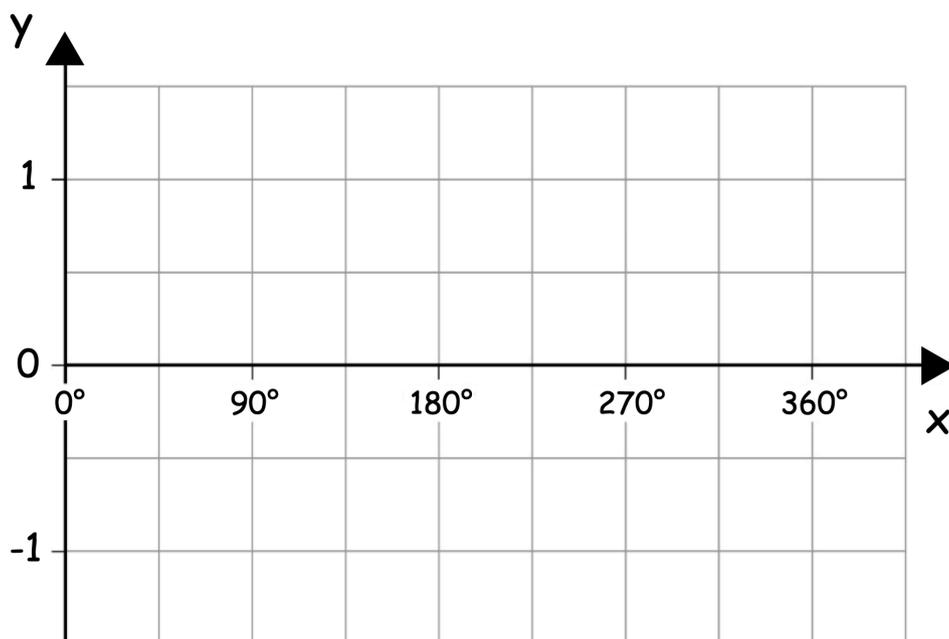


1. Sketch the graph of  $y = \sin x$  for  $0 \leq x \leq 360$



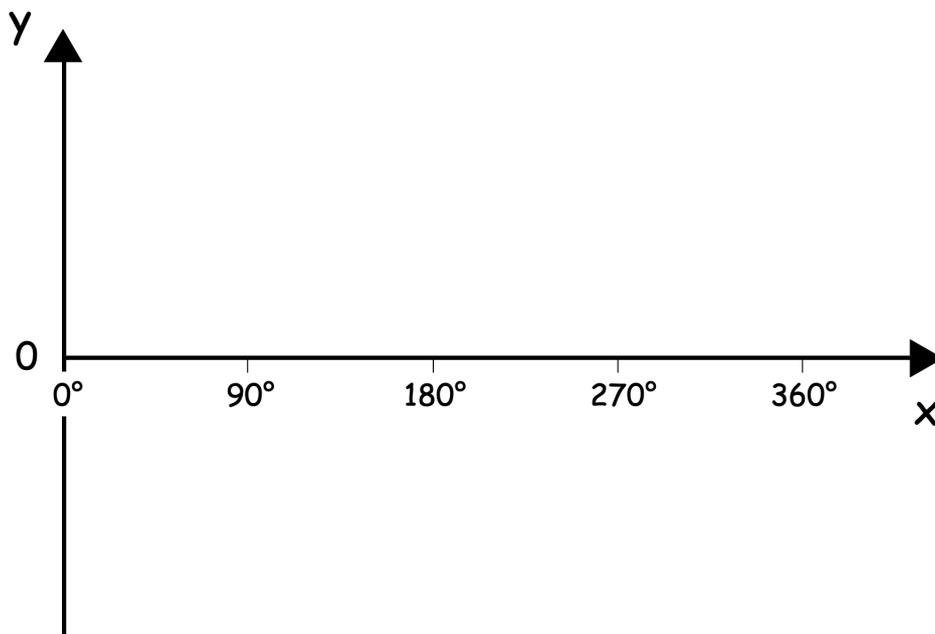
(1)

2. Sketch the graph of  $y = \cos x$  for  $0 \leq x \leq 360$



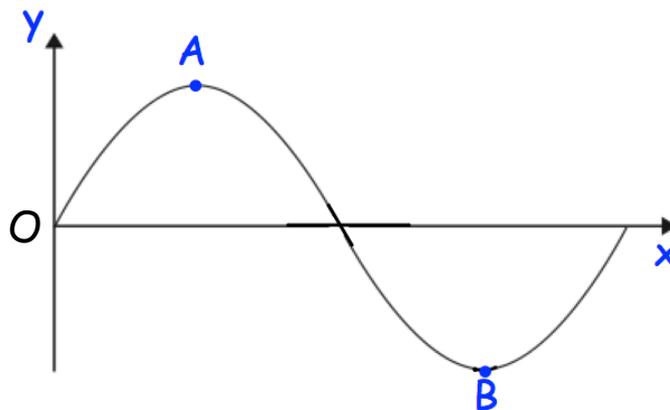
(1)

3. Sketch the graph of  $y = \tan x$  for  $0 \leq x \leq 360$



(1)

4. Shown is part of the curve  $y = \sin x^\circ$



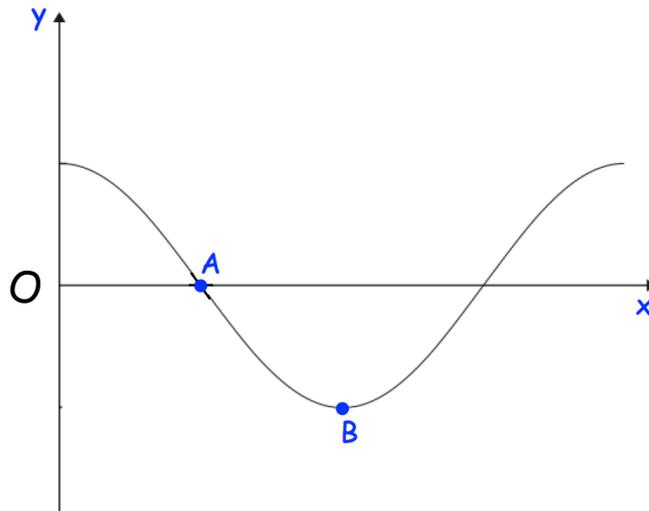
(a) Write down the coordinates of the point A.

(..... , .....)  
(1)

(b) Write down the coordinates of the point B.

(..... , .....)  
(1)

5. Shown is part of the curve  $y = \cos x^\circ$



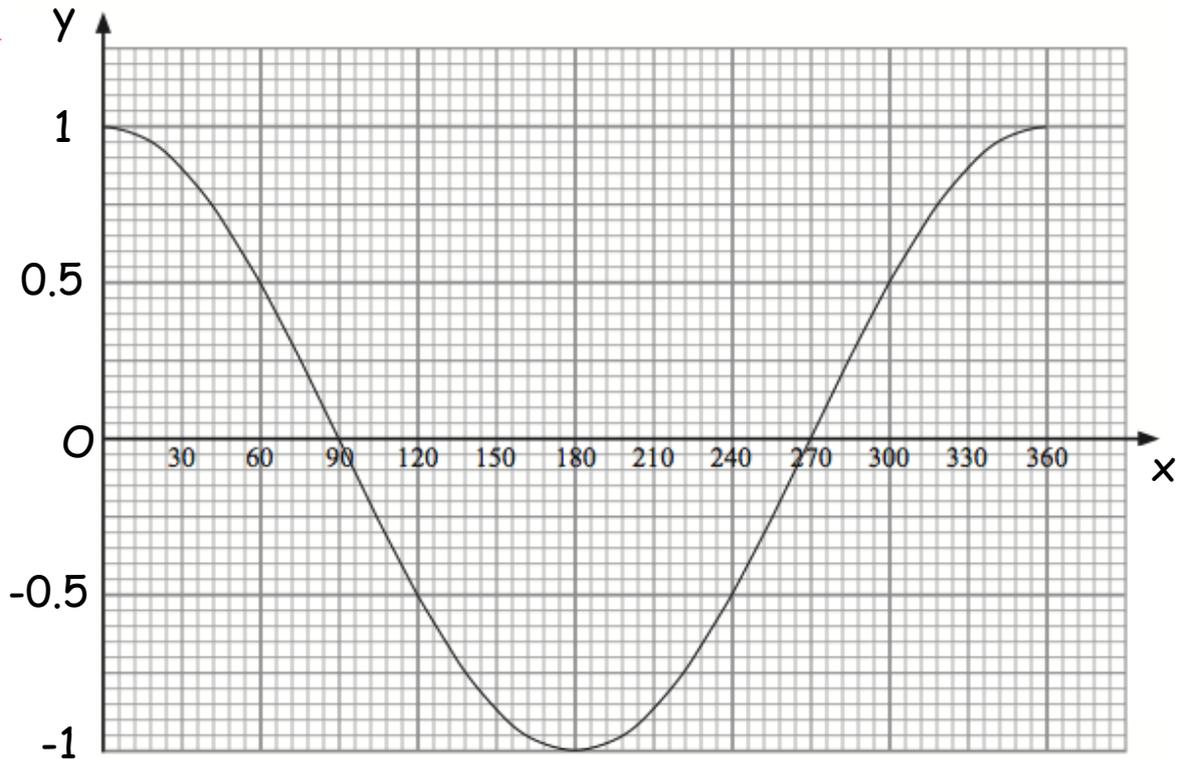
(a) Write down the coordinates of the point A.

(..... , .....)  
**(1)**

(b) Write down the coordinates of the point B.

(..... , .....)  
**(1)**

6. Here is a graph of  $y = \cos x$  for  $0^\circ \leq x \leq 360^\circ$



(a) Use your graph to solve  $\cos x = 0.5$  for  $0^\circ \leq x \leq 360^\circ$

.....  
(2)

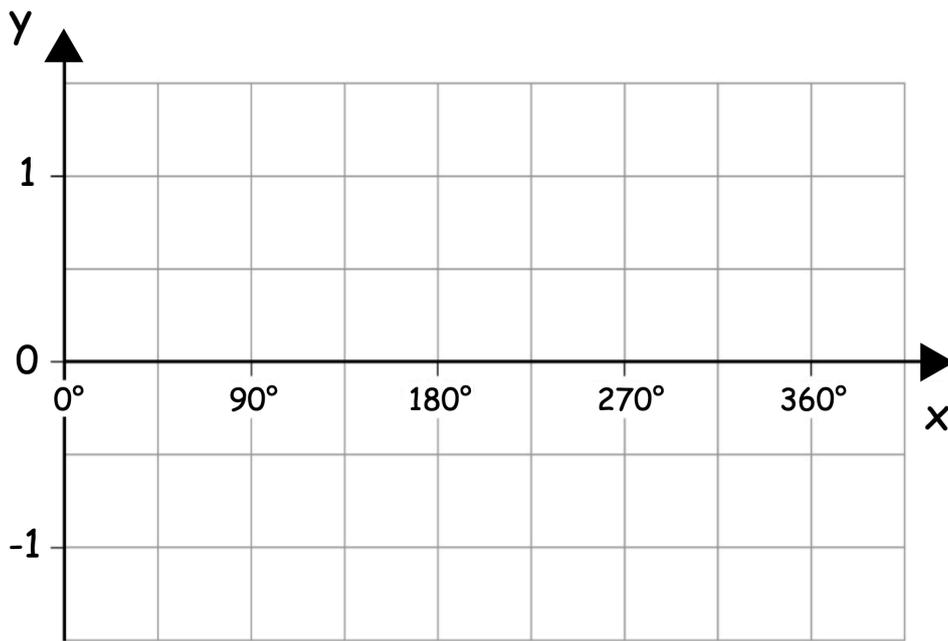
(b) Use your graph to solve  $\cos x = -0.5$  for  $0^\circ \leq x \leq 360^\circ$

.....  
(2)

(c) Use your graph to solve  $\cos x = -0.75$  for  $0^\circ \leq x \leq 360^\circ$

.....  
(2)

7. (a) Sketch the graph of  $y = \cos x$  for  $0^\circ \leq x \leq 360^\circ$



One solution of the equation  $\cos x = 0.766$  is  $x = 40^\circ$

(b) Find the other solution of this equation for  $0^\circ \leq x \leq 360^\circ$

.....  
(2)

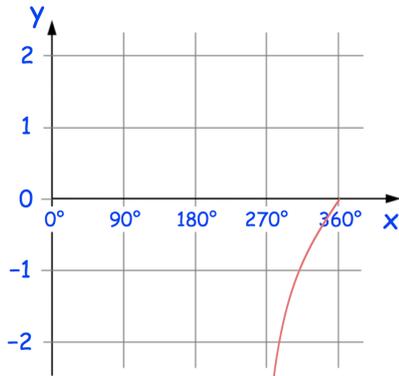
(c) Use your sketch to work out the value of  $\cos 200^\circ$

.....  
(1)

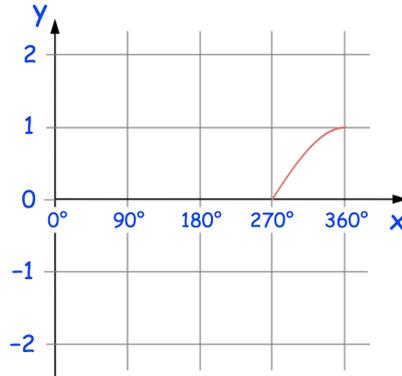
8. Here are three graphs for  $270^\circ \leq x \leq 360^\circ$



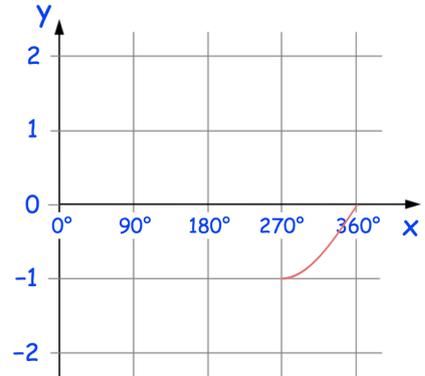
Graph 1



Graph 2



Graph 3



(a) Write down which graph is  $y = \sin x$

.....  
(1)

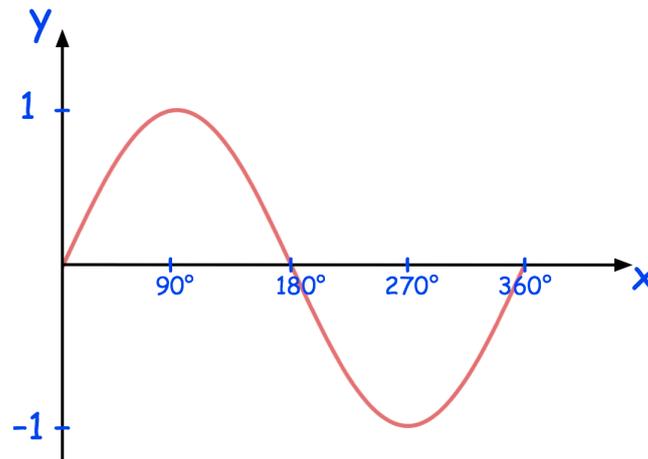
(b) Write down which graph is  $y = \cos x$

.....  
(1)

(c) Write down which graph is  $y = \tan x$

.....  
(1)

9. Here is the graph of  $y = \sin x$  for  $0^\circ \leq x \leq 360^\circ$



One solution of  $\sin x = -0.5$  is  $x = 210^\circ$

(a) Find another solution of  $\sin x = -0.5$  for  $0^\circ \leq x \leq 360^\circ$

.....  
(1)

(b) Find the solutions of  $\sin x = 0.5$  for  $0^\circ \leq x \leq 360^\circ$

.....  
(2)

10. The angle  $x$  is an acute angle.



Circle the correct statement.

$$\tan x < 0$$

$$\tan x = 0$$

$$\tan x > 0$$

(1)

11. The angle  $x$  is such that  $270^\circ < x < 360^\circ$



Circle the correct statement.

$$\tan x < 0 \text{ and } \cos x < 0$$

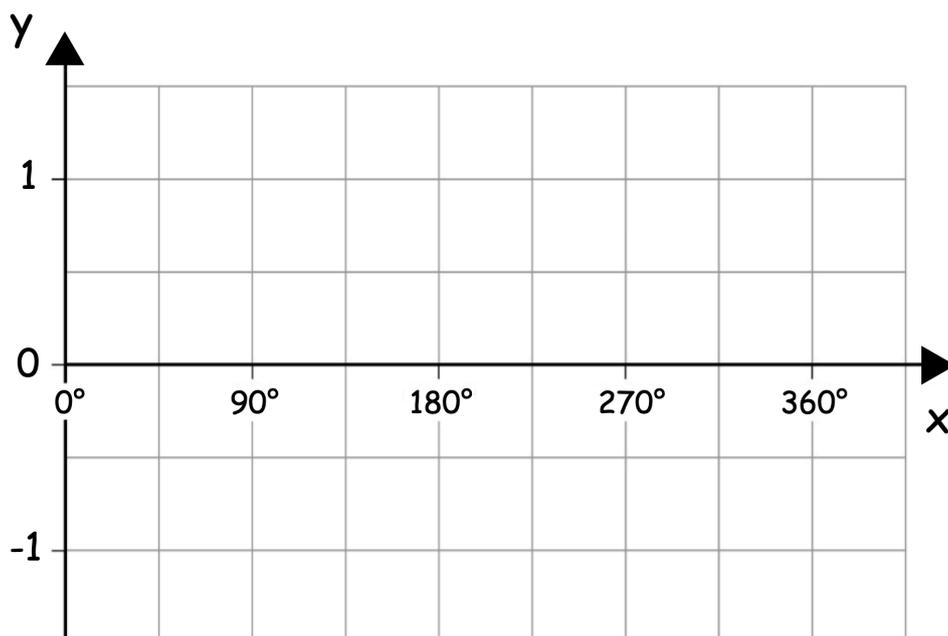
$$\tan x < 0 \text{ and } \cos x > 0$$

$$\tan x > 0 \text{ and } \cos x < 0$$

$$\tan x > 0 \text{ and } \cos x > 0$$

(1)

12. Sketch the graph of  $y = -\cos x$  for  $0 \leq x \leq 360$



(2)