

Name:

Exam Style Questions

Trigonometric Graphs



Corbettmaths

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

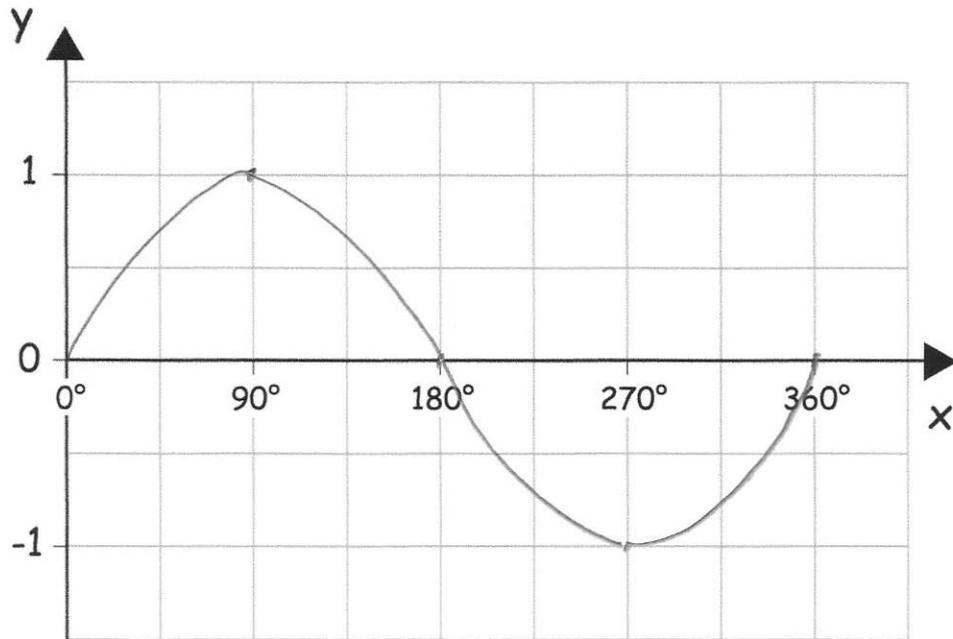
Videos 338, 339, 340



Answers and Video Solutions

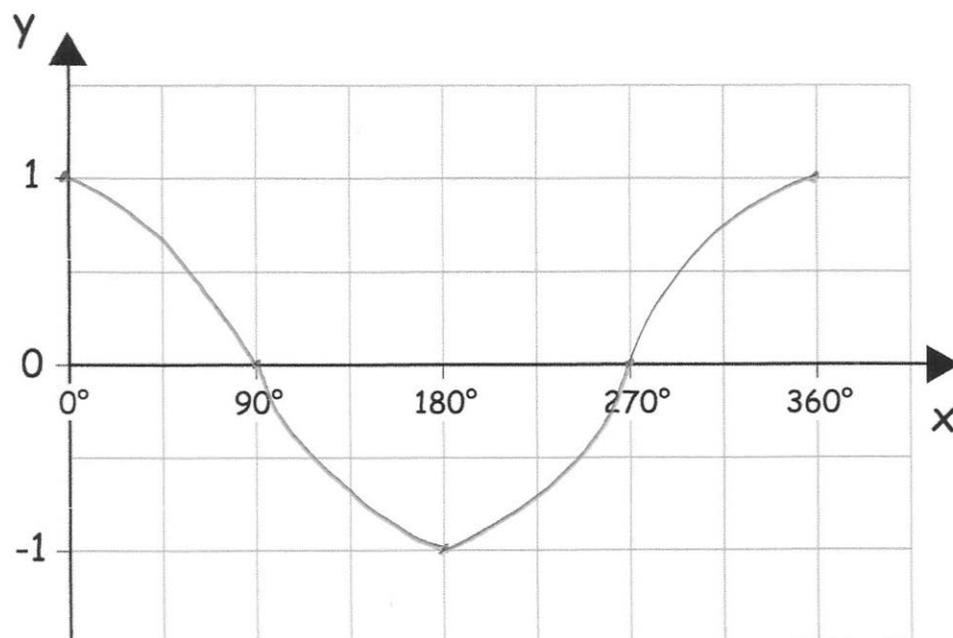


1. Sketch the graph of $y = \sin x$ for $0 \leq x \leq 360$



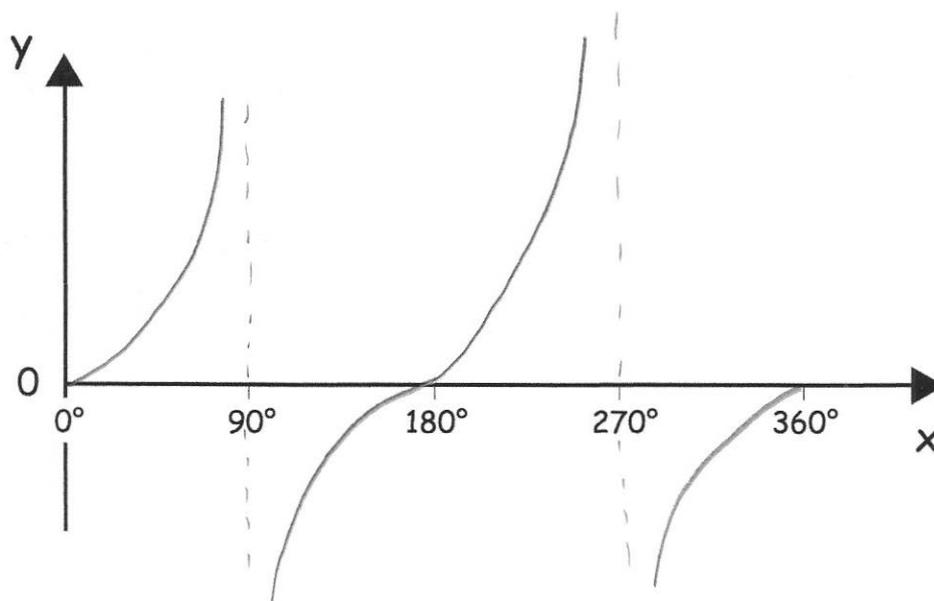
(1)

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



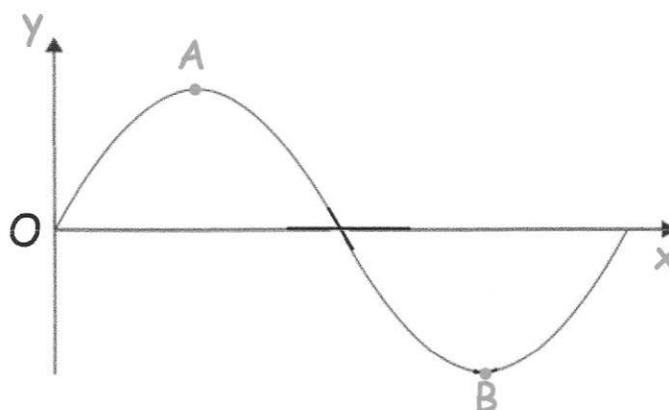
(1)

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



(1)

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



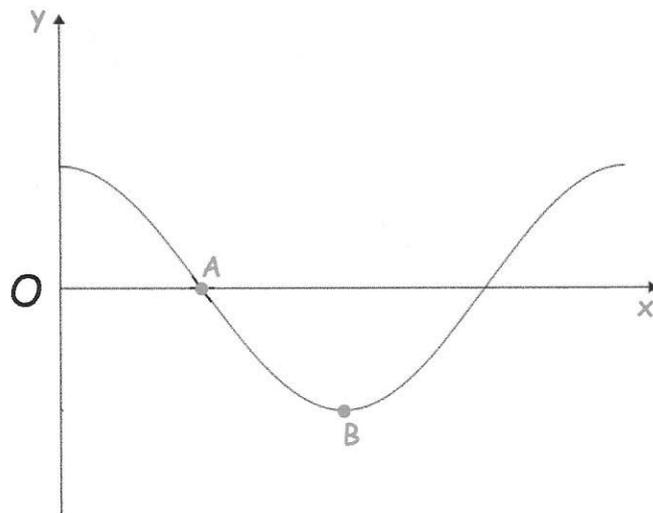
(a) Write down the coordinates of the point A.

(90, 1)
(1)

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

(270, -1)
(1)

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



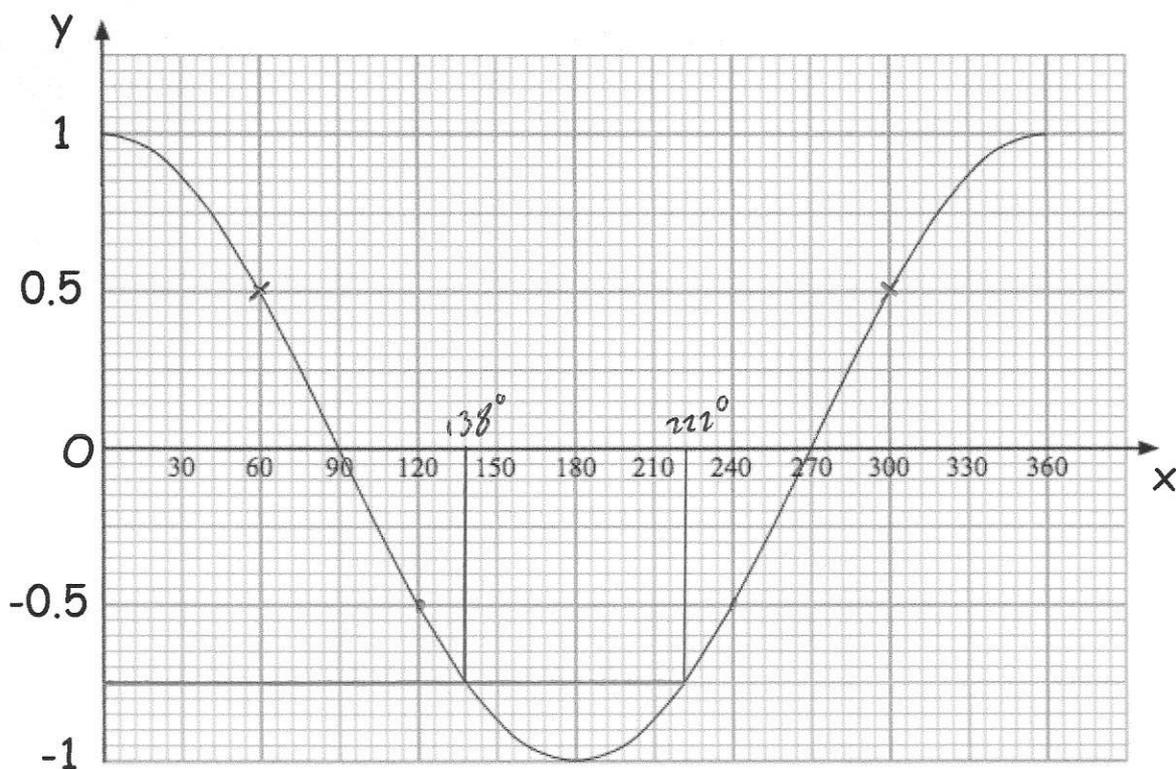
(a) Write down the coordinates of the point A.

(.....,)
(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 $0^\circ \leq x \leq 360^\circ$

60° and 300°
(2)

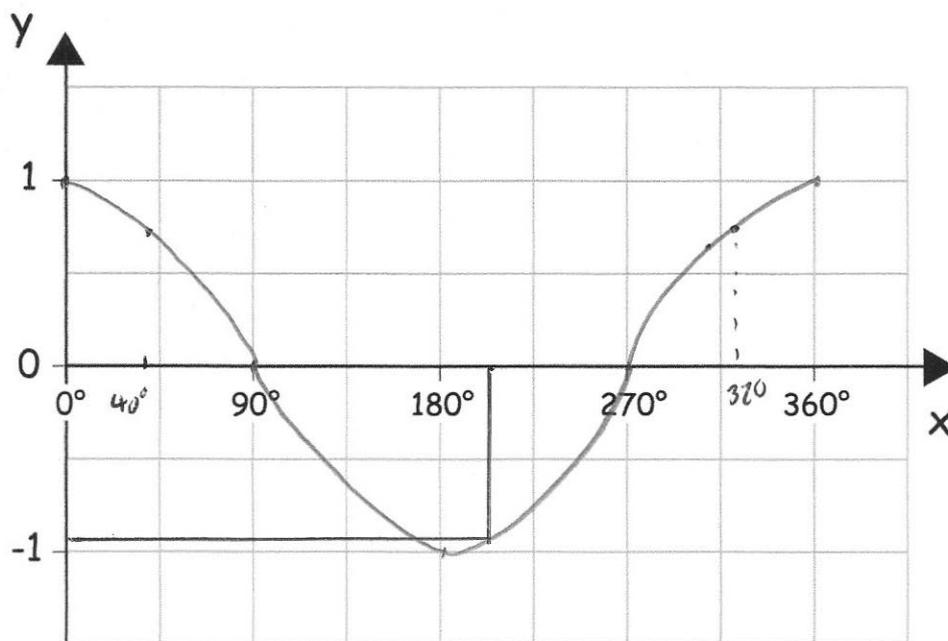
(b) Use your graph to solve $\cos x = -0.5$ for $0^\circ \leq x \leq 360^\circ$

120° and 240°
(2)

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

≈ 138° and 222°
(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 $0^\circ \leq x \leq 360^\circ$

320°
(2)

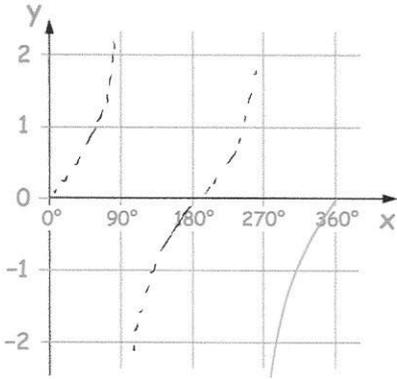
(c) Use your sketch to work out the value of $\cos 200^\circ$

-0.95
(1)

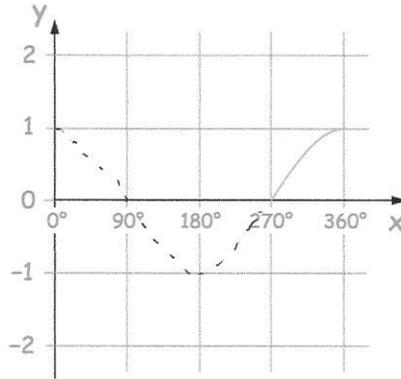
8. Here are three graphs for $270^\circ \leq x \leq 360^\circ$



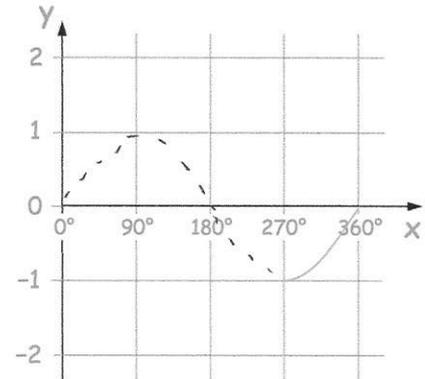
Graph 1



Graph 2



Graph 3



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

Graph 3
.....
(1)

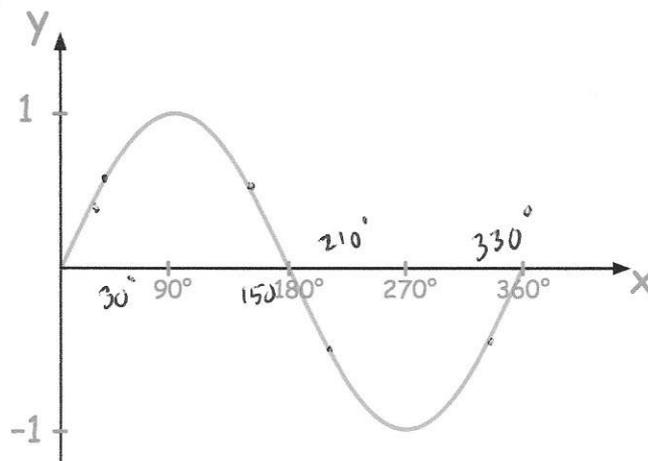
(b) Write down which graph is $y = \cos x$

Graph 2
.....
(1)

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

Graph 1
.....
(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 $0^\circ \leq x \leq 360^\circ$

330°

.....
(1)

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

30° & 150°

.....
(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.

*$\tan x$ is negative
 $\cos x$ is positive*

$\tan x < 0$ and $\cos x < 0$

$\tan x < 0$ and $\cos x > 0$

$\tan x > 0$ and $\cos x < 0$

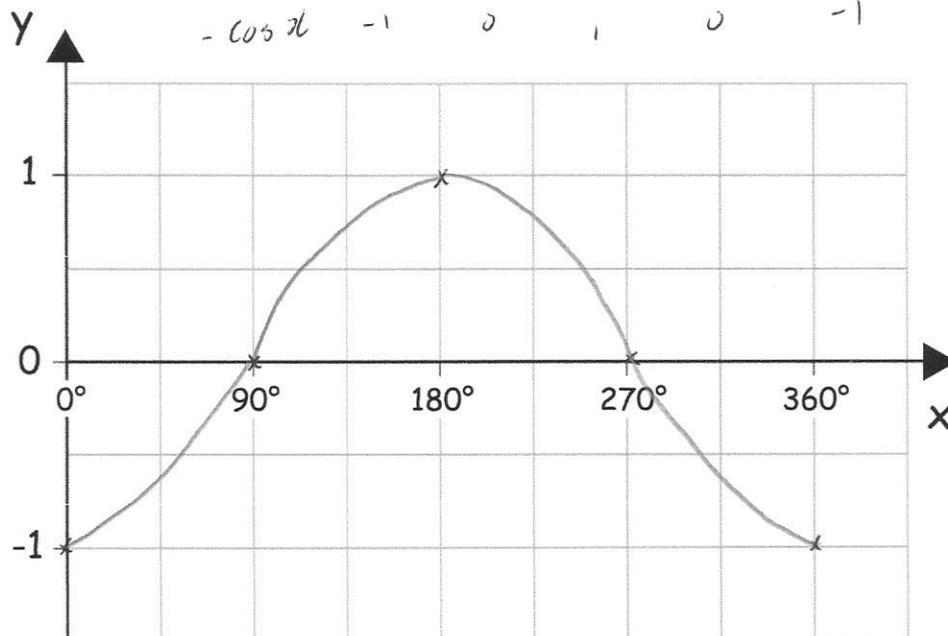
$\tan x > 0$ and $\cos x > 0$

(1)

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



x	0	90	180	270	360
$\cos x$	1	0	-1	0	1
$-\cos x$	-1	0	1	0	-1



(2)