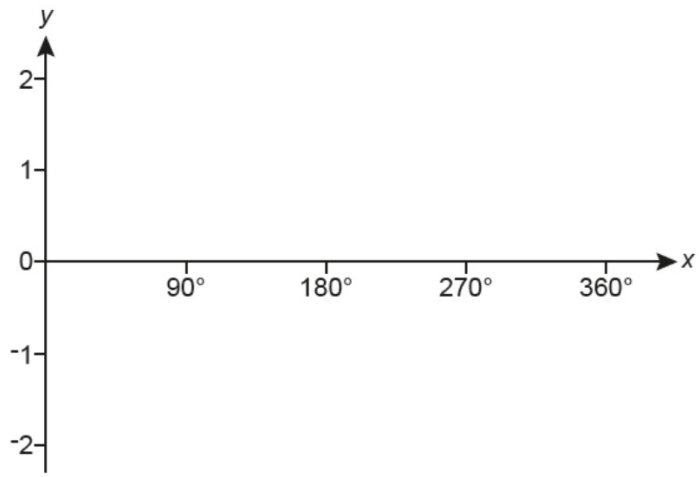
A76 (H) Trigonometric Graphs

OCR

Video created by W Neill

15 (a) Sketch the graph of $y = \sin x$ for $0° \leqslant x \leqslant 360°$.

A76



[2]

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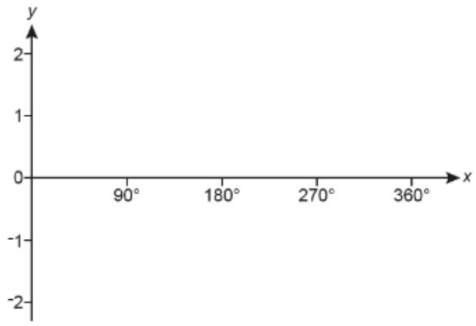
(b) Solve the equation $5 \sin x = -3$.
Give all of the solutions in the range $0° \leqslant x \leqslant 360°$.

A76



(b) $x =$ .....° or $x =$ .....° **[4]**

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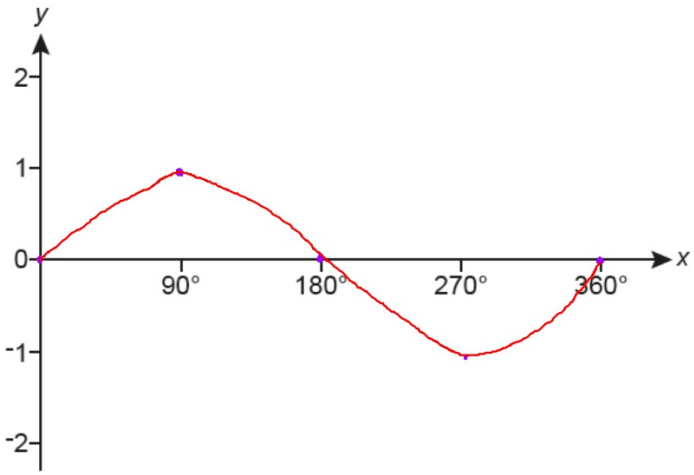
15 (a) Sketch the graph of $y = \sin x$ for $0° \leqslant x \leqslant 360°$.

A76



[2]

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(b) Solve the equation $5 \sin x = -3$.
Give all of the solutions in the range $0° \leqslant x \leqslant 360°$.

A76

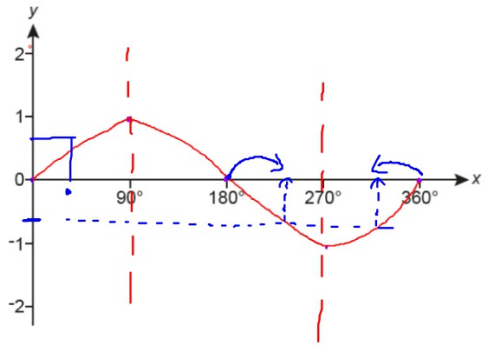
$5 \sin x = -3$

$\sin x = -\frac{3}{5}$

$\sin x = -0.6$

$\sin^{-1} -0.6$

$= -36.86°$



(b) $x =$ 216.86° or $x =$ 323.13° **[4]**

17 For each graph below, select its possible equation from this list.

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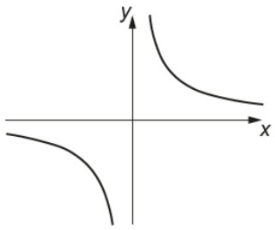
$y = \frac{1}{x}$ $y = \cos x$ $y = x^2$ $y = \left(\frac{1}{2}\right)^x$ $y = 2^x$

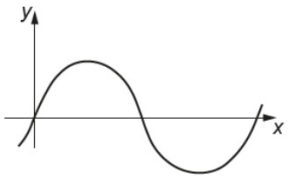
$y = \sin x$ $y = 2^{-x}$ $y = \tan x$ $y = x^3$ $y = \frac{1}{x^2}$

(a)



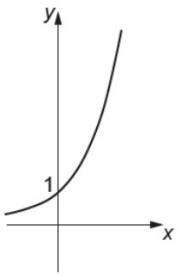
(a) $y =$ .....

(b)



(b) $y =$ .....

(c)



(c) $y =$ .....

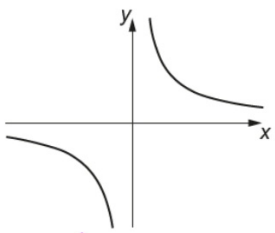
17 For each graph below, select its possible equation from this list.

Created by W Neill

$y = \frac{1}{x}$ $y = \cos x$ $y = x^2$ $y = \left(\frac{1}{2}\right)^x$ $y = 2^x$

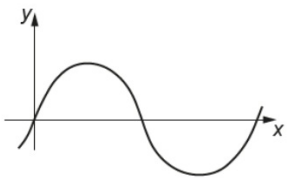
$y = \sin x$ $y = 2^{-x}$ $y = \tan x$ $y = x^3$ $y = \frac{1}{x^2}$

(a)



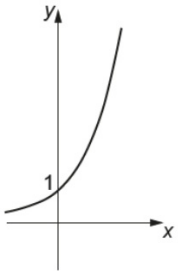
(a) $y =$ $\frac{1}{x}$

(b)



(b) $y =$ $\sin x$

(c)



(c) $y =$ 2^x

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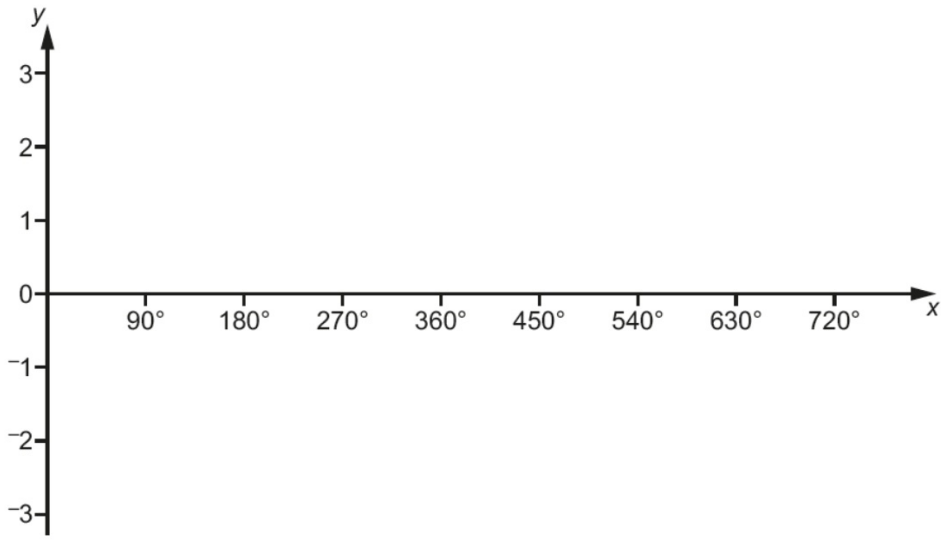
18 (a) Sketch the graph of $y = \cos x + 1$ for $0° \leqslant x \leqslant 720°$.

A76
A77



[3]

(b) Explain why the equation $\cos x + 1 = 2.7$ has no solutions.

.....

.....

..... **[1]**

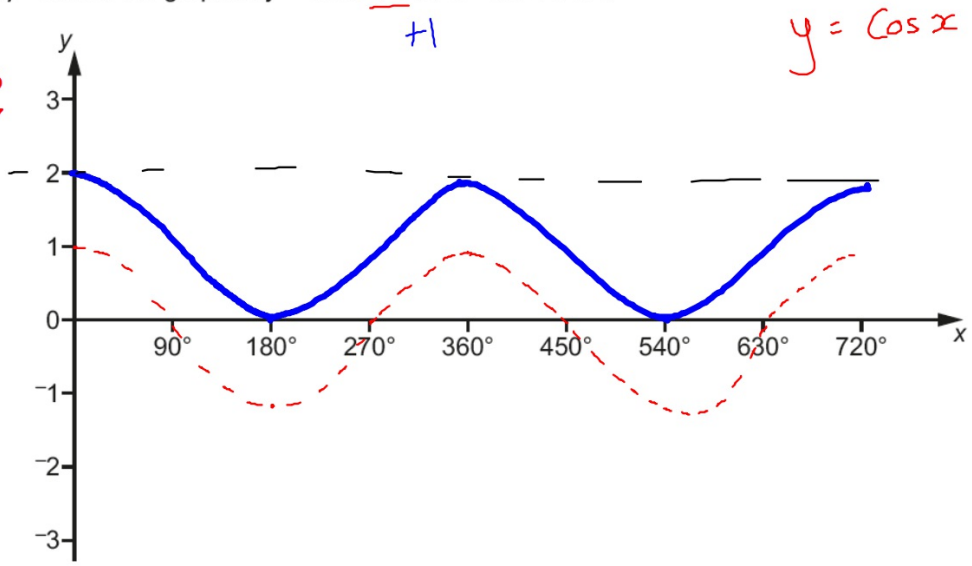
Video created by W Neill

18 (a) Sketch the graph of $y = \cos x + 1$ for $0° \leqslant x \leqslant 720°$.

+1

$y = \cos x$ ...

A76
A77



[3]

(b) Explain why the equation $\cos x + 1 = 2.7$ has no solutions.

The graph only reaches 2 and $2.7 > 2$ so therefore no solutions **[1]**

EDEXCEL

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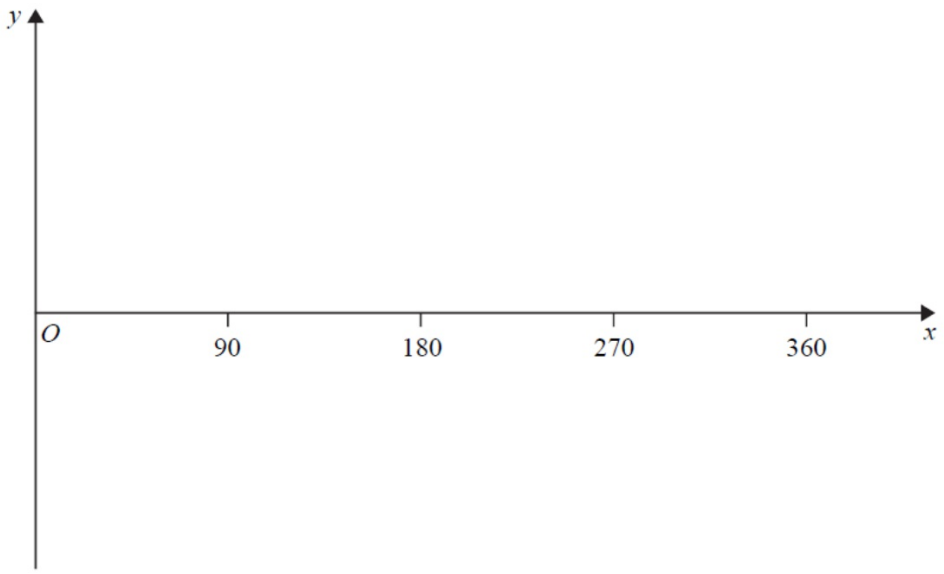
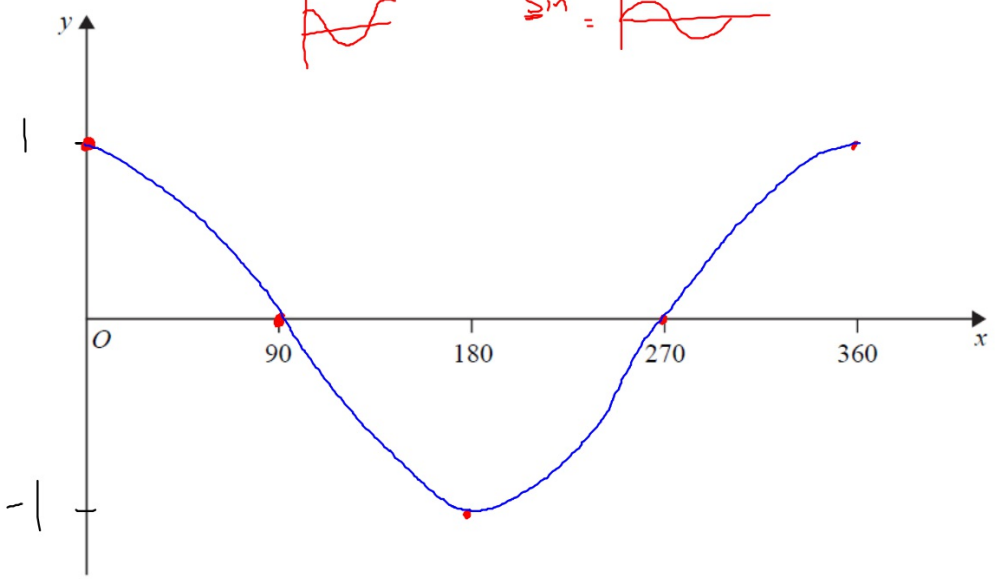
19 (a) Sketch the graph of $y = \cos x°$ for $0 \leqslant x \leqslant 360$



(2)

Video created by W Neill

19 (a) Sketch the graph of $y = \cos x°$ for $0 \leqslant x \leqslant 360$



(2)

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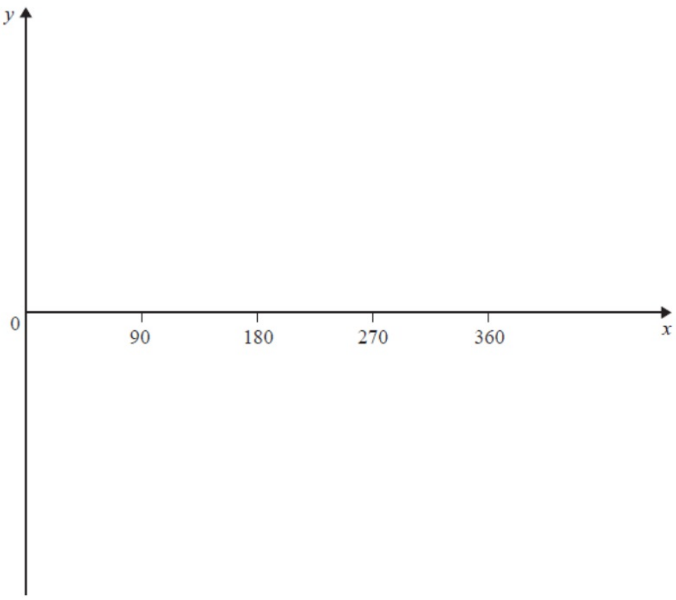
11 Sketch the graph of $y = \tan x^\circ$ for $0 \leqslant x \leqslant 360$

A76



(Total for Question 11 is 2 marks)

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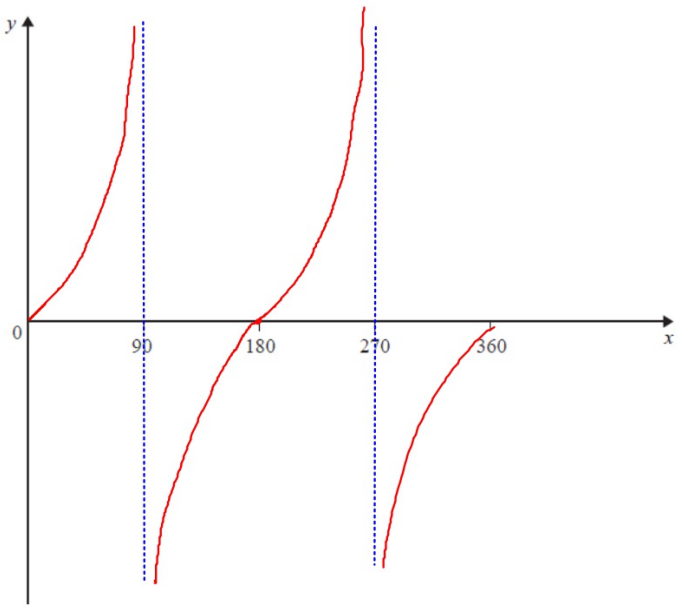
11 Sketch the graph of $y = \tan x°$ for $0 \leqslant x \leqslant 360$

A76



(Total for Question 11 is 2 marks)

AQA

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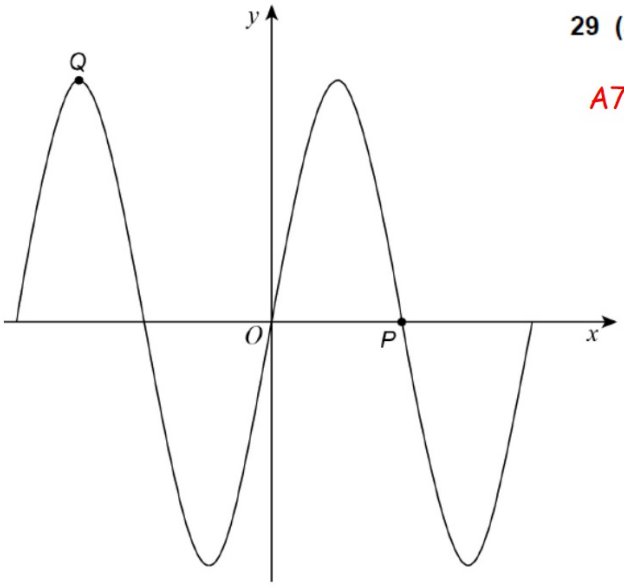
29 Here is a sketch of $y = \sin x°$ for $-360 \leqslant x \leqslant 360$



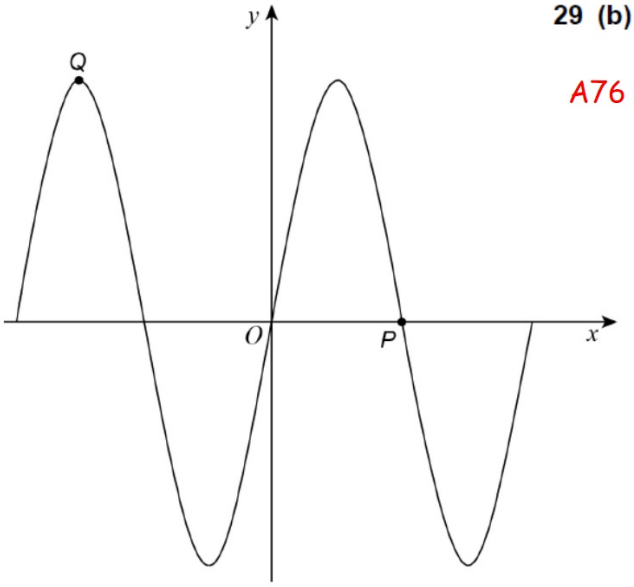
29 (a) Write down the coordinates of *P*.

A76

Answer (_____ , _____)

Video created by W Neill

29 Here is a sketch of $y = \sin x°$ for $-360 \leqslant x \leqslant 360$



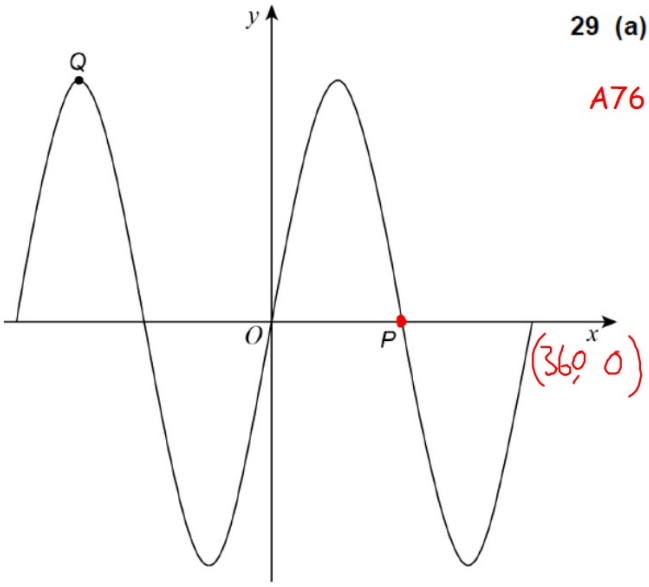
29 (b) Write down the coordinates of Q.

A76

Answer (_____ , _____)

Video created by W Neill

29 Here is a sketch of $y = \sin x°$ for $-360 \leqslant x \leqslant 360$



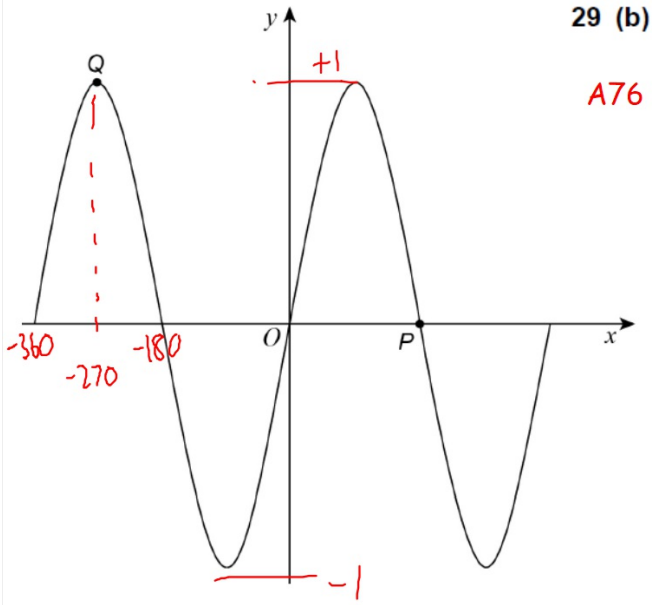
29 (a) Write down the coordinates of *P*.

A76

Answer (180 , 0)

Video created by W Neill

29 Here is a sketch of $y = \sin x°$ for $-360 \leqslant x \leqslant 360$



29 (b) Write down the coordinates of Q.

A76

Answer (-270 , 1)

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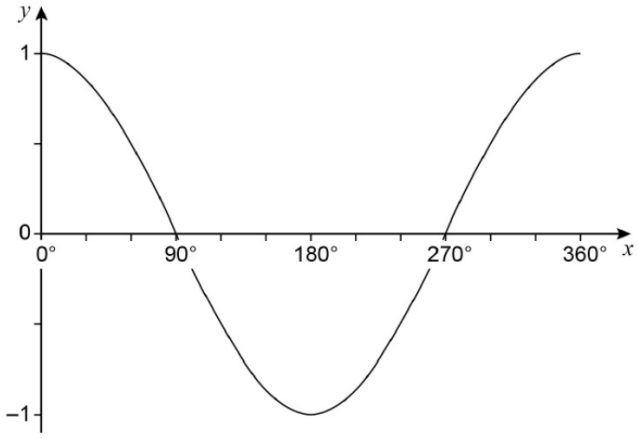
25 Here is a sketch of the graph of $y = \cos x$ for values of x from 0° to 360°

A76



25 (a) $\cos x = \cos 60°$

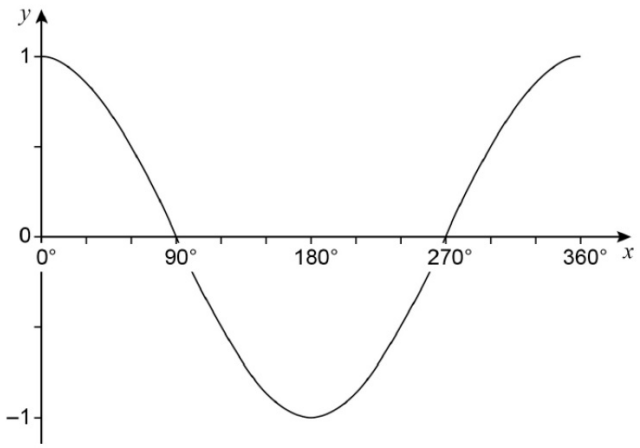
Work out the value of x when $90° \leqslant x \leqslant 360°$

[1 mark]

Answer _____ degrees

Video created by W Neill

25 Here is a sketch of the graph of $y = \cos x$ for values of x from 0° to 360°



25 (b) $\cos x = -\cos 60°$

Work out the value of x when $180° \leqslant x \leqslant 360°$

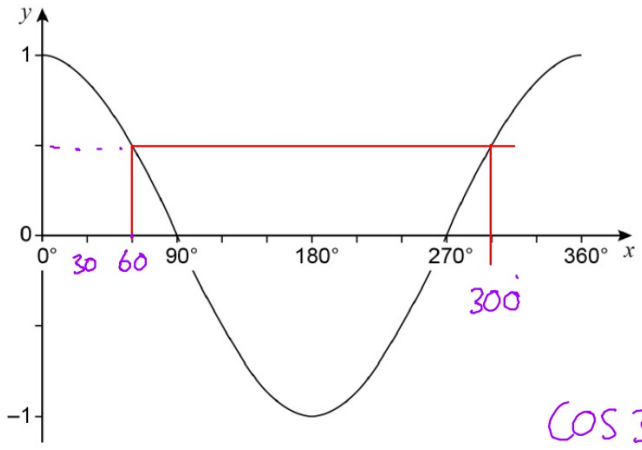
[1 mark]

Answer _____ degrees

Video created by W Neill

25 Here is a sketch of the graph of $y = \cos x$ for values of x from 0° to 360°

A76



300

$\cos 300^\circ = \cos 60^\circ$

25 (a) $\cos x = \cos 60°$

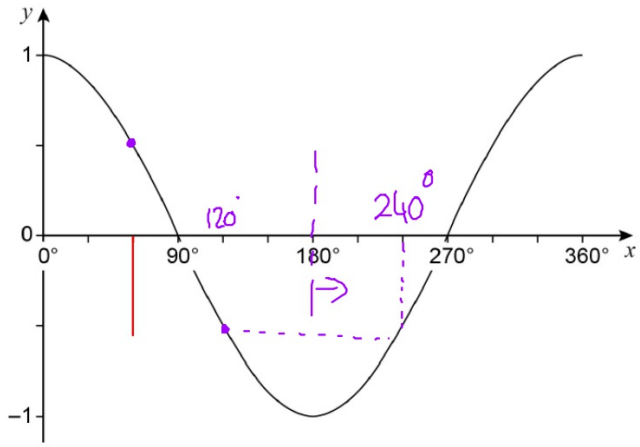
Work out the value of x when $90° \leqslant x \leqslant 360°$

[1 mark]

Answer 300 degrees

Video created by W Neill

25 Here is a sketch of the graph of $y = \cos x$ for values of x from 0° to 360°



25 (b) $\cos x = -\cos 60°$

Work out the value of x when $180° \leqslant x \leqslant 360°$

[1 mark]

Answer 240 ✓ degrees