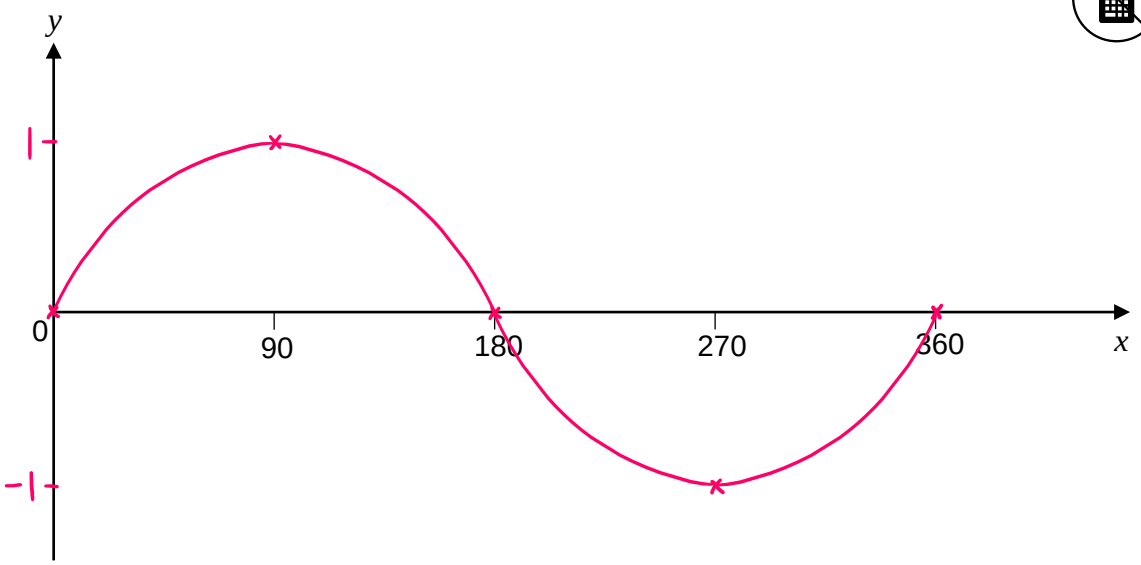
Trigonometric Graphs

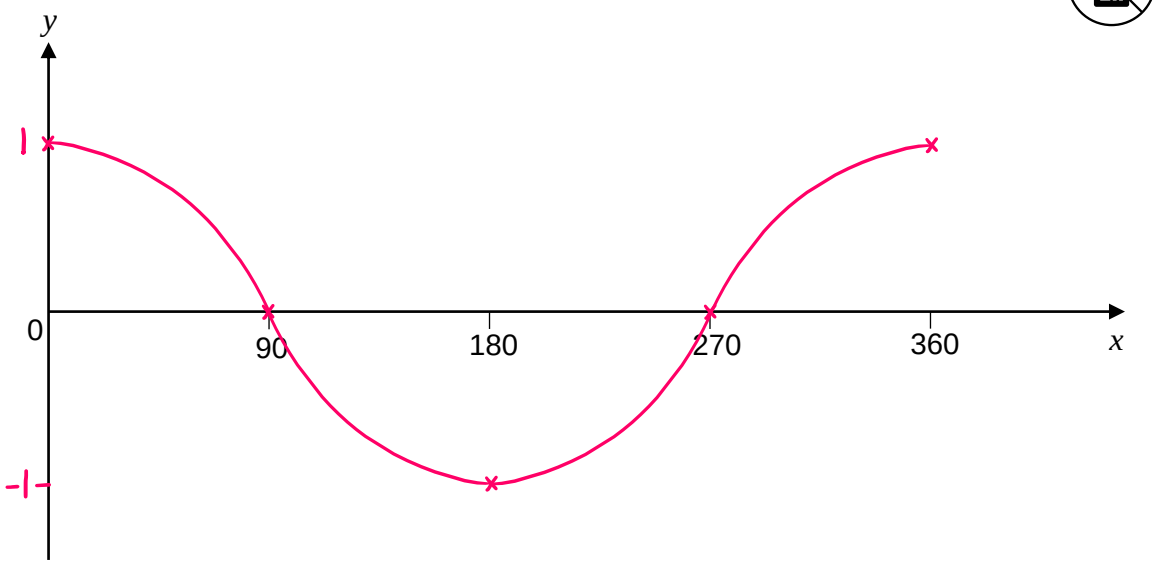
SCAN ME

REVISE THIS TOPIC

1 Sketch the graph of $y = \sin x°$ for $0 \leq x \leq 360$ **[2 marks]**

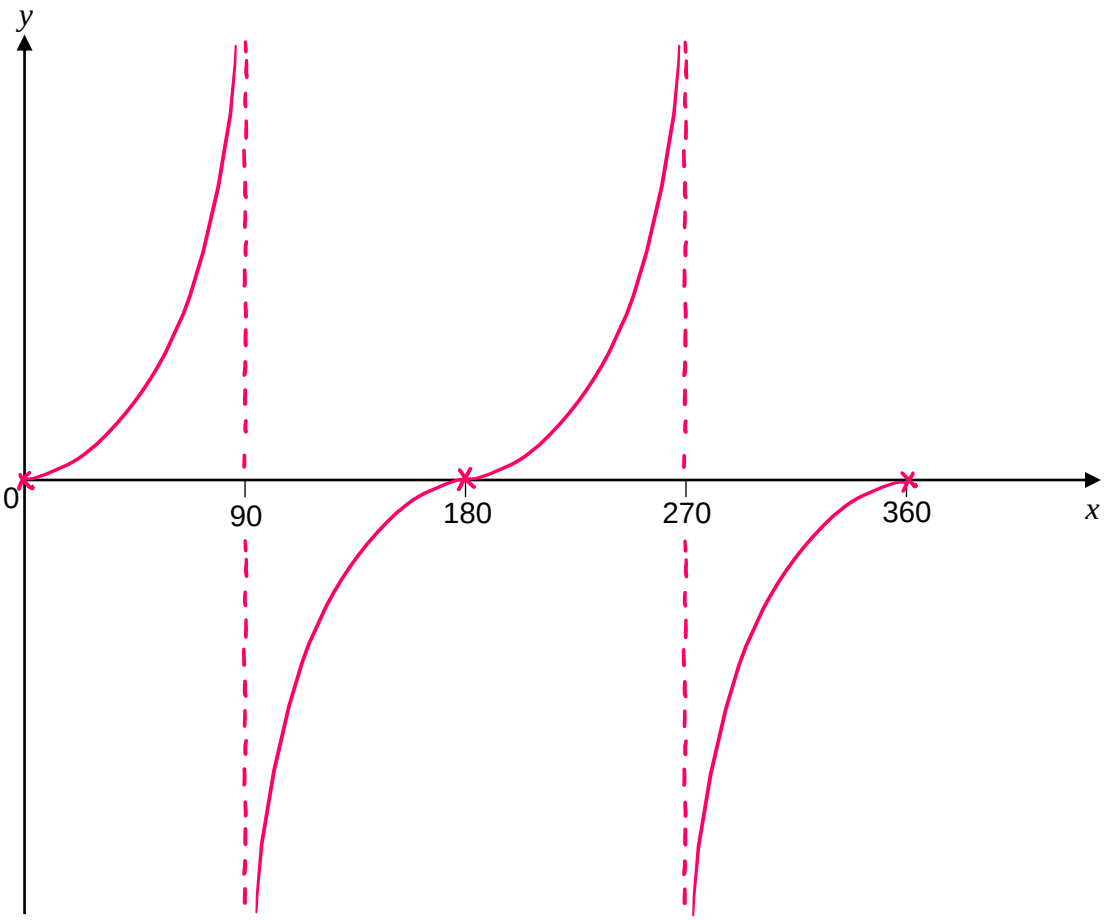


2 Sketch the graph of $y = \cos x°$ for $0 \leq x \leq 360$ **[2 marks]**



4

3 Sketch the graph of $y = \tan x°$ for $0 \leq x \leq 360$ **[2 marks]**



4 Here is a graph of $y = \sin x°$ for $0 \le x \le 360$

4 (a) Use the graph to find estimates for the solutions of **[2 marks]**

$\sin x° = 0.8$ for $0 \le x \le 360$

Answer 54° and 126°

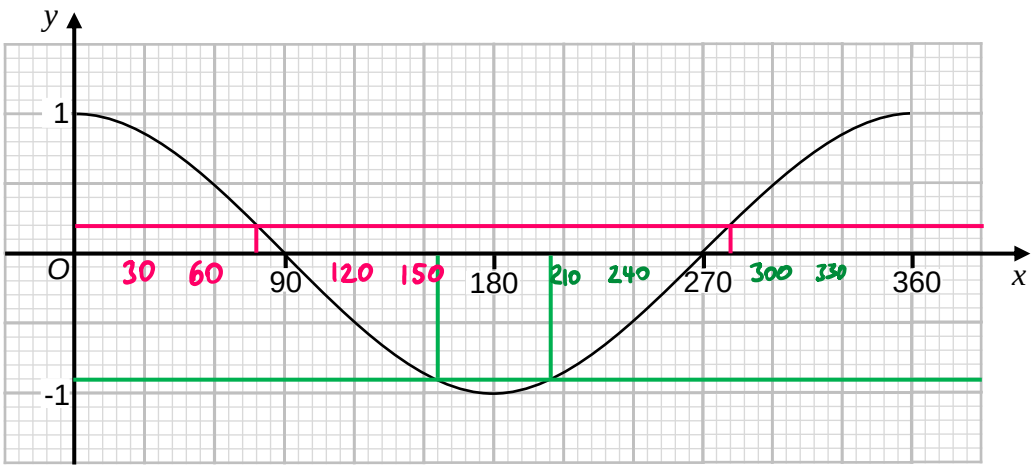
4 (b) Use the graph to find estimates for the solutions of **[2 marks]**

$\sin x° = -0.4$ for $0 \le x \le 360$

Answer 204° and 336°

6

5 Here is a graph of $y = \cos x°$ for $0 \le x \le 360$



5 (a) Use the graph to find estimates for the solutions of **[2 marks]**

$\cos x° = 0.2$ for $0 \le x \le 360$

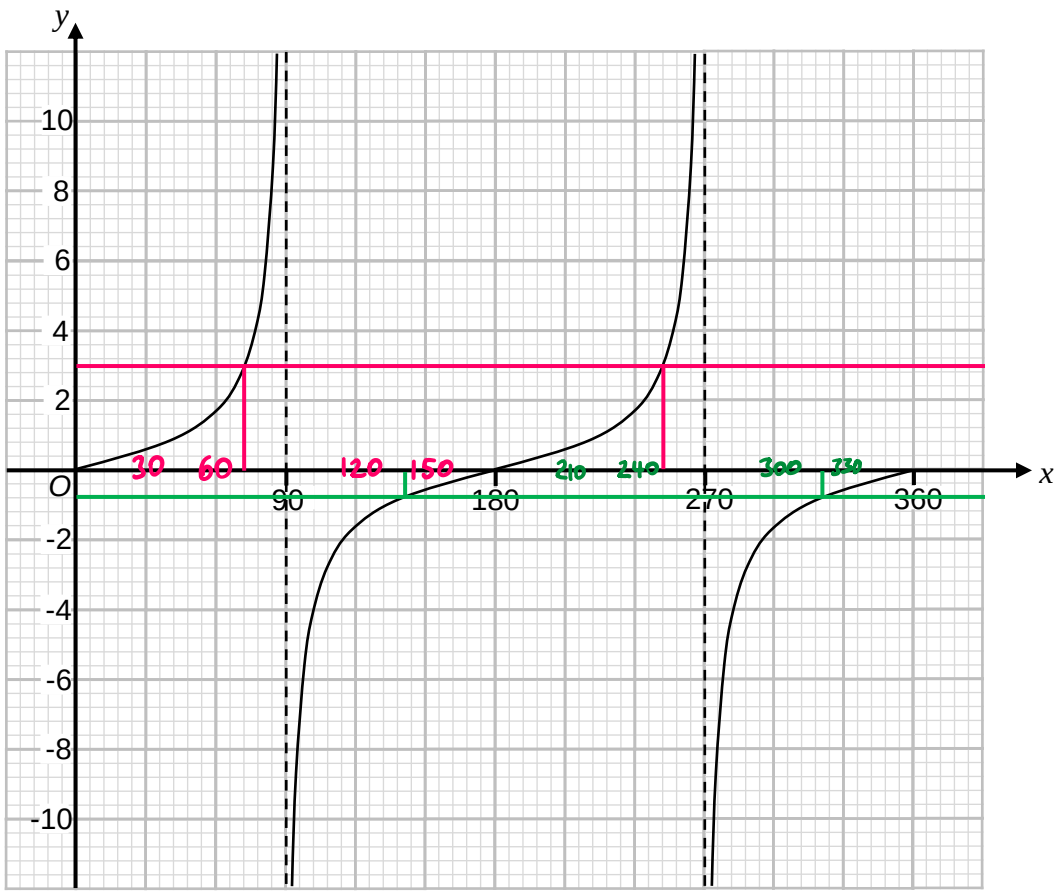
Answer 78° and 282°

5 (b) Use the graph to find estimates for the solutions of **[2 marks]**

$\cos x° = -0.9$ for $0 \le x \le 360$

Answer 156° and 204°

6 Here is a graph of $y = \tan x°$ for $0 \leq x \leq 360$



6 (a) Use the graph to find estimates for the solutions of **[2 marks]**

$\tan x° = 3$ for $0 \leq x \leq 360$

Answer 72° and 252°

6 (b) Use the graph to find estimates for the solutions of **[2 marks]**

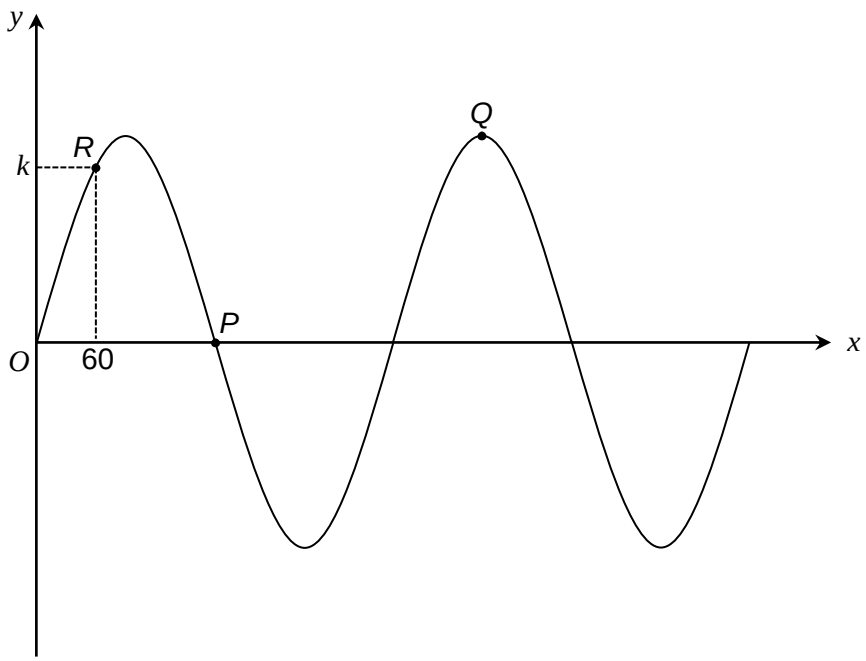
$\tan x° = -0.8$ for $0 \leq x \leq 360$

Answer 141° and 321°

8

Turn over ►

7 Here is a sketch of $y = \sin x°$ for $0 \leq x \leq 720$



7 (a) Write down the coordinates of P. **[1 mark]**

Answer (180 , 0)

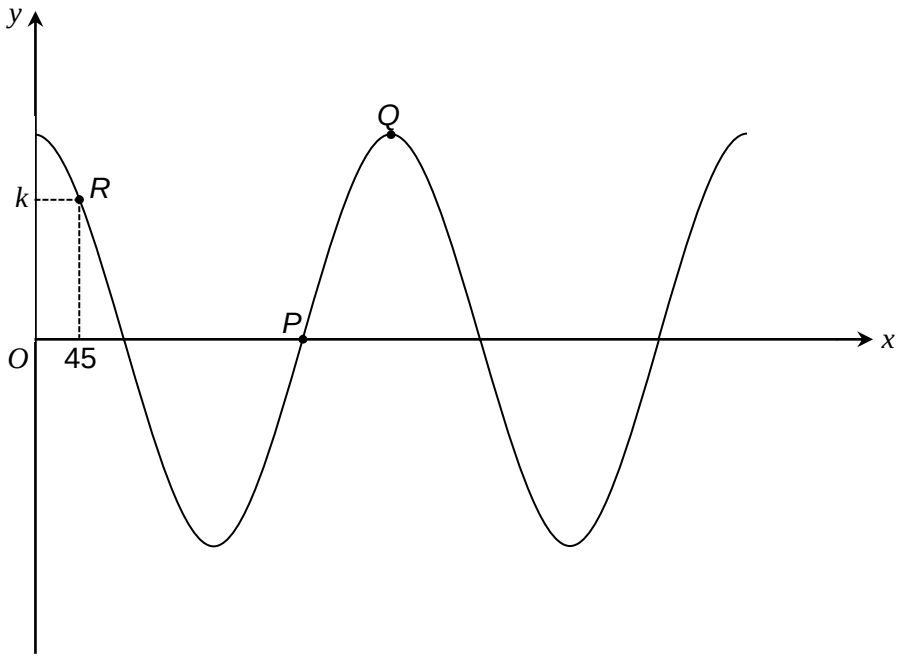
7 (b) Write down the coordinates of Q. **[1 mark]**

Answer (450 , 1)

7 (c) Write down the exact value of k. **[1 mark]**

$k =$ $\frac{\sqrt{3}}{2}$

8 Here is a sketch of $y = \cos x°$ for $0 \leq x \leq 720$



8 (a) Write down the coordinates of P.

Answer (270 , 0)

8 (b) Write down the coordinates of Q.

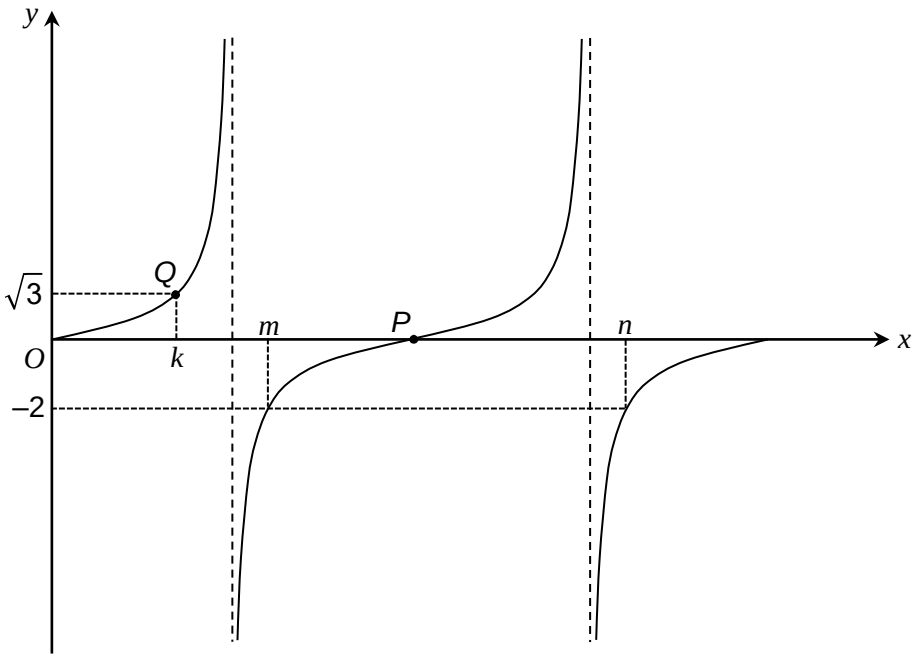
Answer (360 , 1)

8 (c) Write down the exact value of k.

$k =$ $\frac{\sqrt{2}}{2}$

6

9 Here is a sketch of $y = \tan x°$ for $0 \leq x \leq 360$



9 (a) Write down the coordinates of P. **[1 mark]**

Answer (180 , 0)

9 (b) Write down the value of k. **[1 mark]**

$k =$ 60

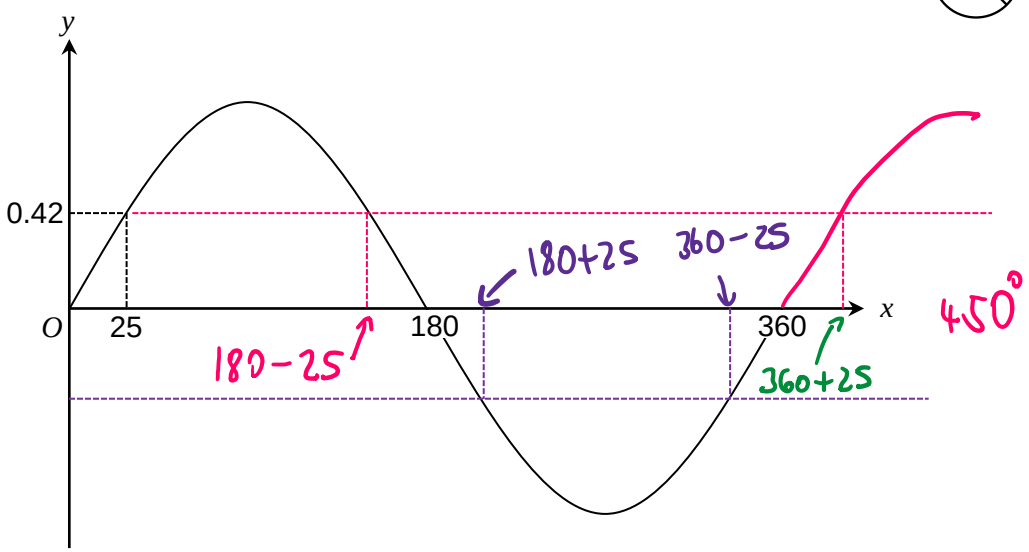
9 (c) $0 < m < 360$, $0 < n < 360$ and $m < n$ **[1 mark]**

$\tan m° = \tan n° = -2$

Express n in terms of m.

Answer $n = m + 180$

10 Here is a sketch of $y = \sin x°$ for $0 \leq x \leq 360$



$\sin(25°) = 0.42$ (to 2 decimal places)

$\sin(p°) = \sin(q°) = \sin(25°)$ where $90° < p < 180°$ and $360° < q < 450°$

10 (a) Write down the value of p. **[1 mark]**

$p =$ 155

10 (b) Write down the value of q. **[1 mark]**

$q =$ 385

$\sin(a°) = \sin(b°) = -0.42$
where $a < b$ and $180° < a < 360°$ and $180° < b < 360°$

10 (c) Write down the values of a and b. **[2 marks]**

$a =$ 205 $b =$ 335

7