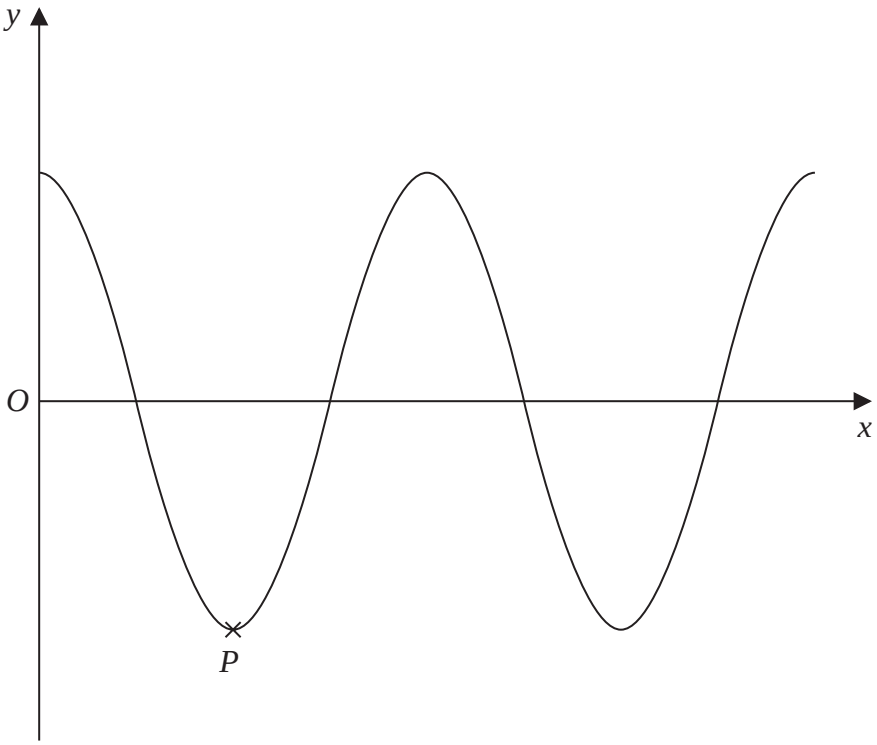
1



The diagram shows a sketch of part of the curve with equation $y = \cos x°$

P is a minimum point on the curve.

Write down the coordinates of P.

The first minimum point on $y = \cos x$ is $(180, -1)$.

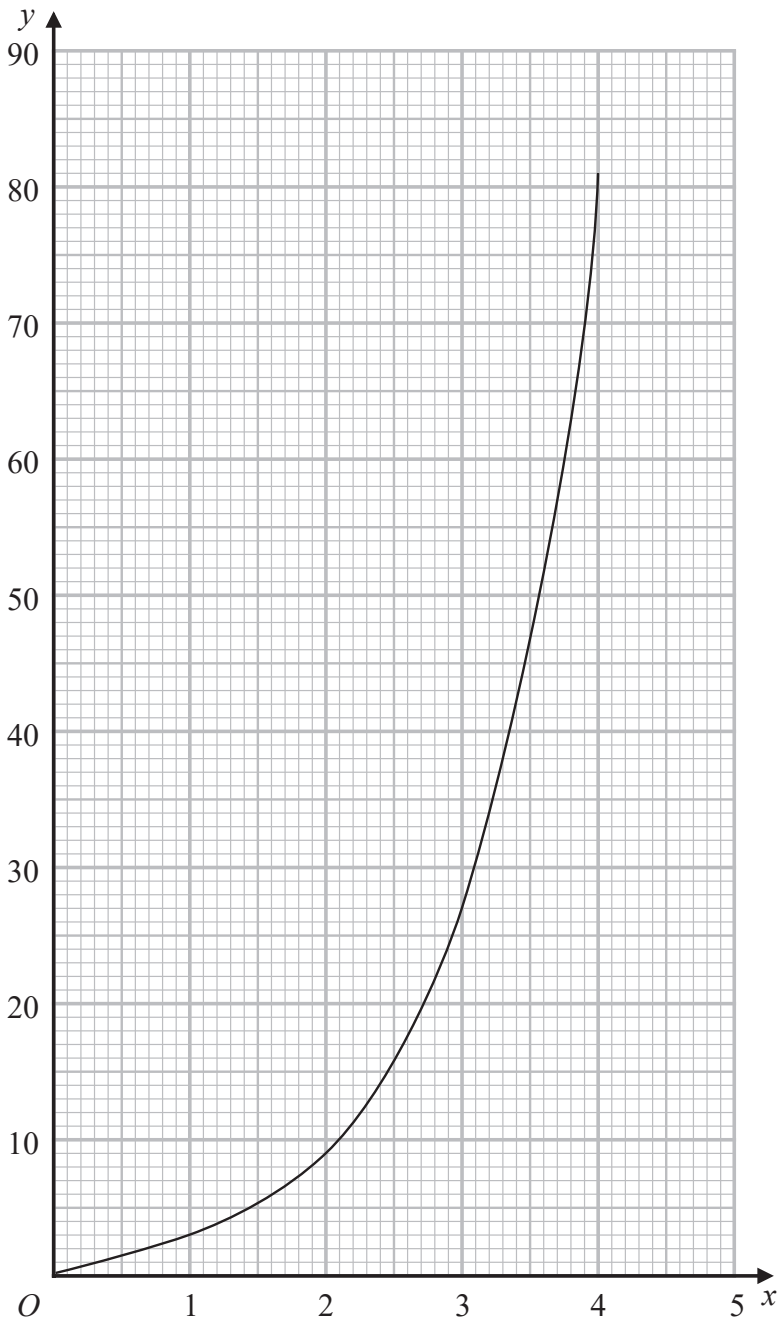
(1) (1)

(180 , −1)

(Total for Question 1 is 2 marks)

2 Sana needs to draw the graph of $y = 3^x$ for $0 \leqslant x \leqslant 4$

She draws the graph shown on the grid.



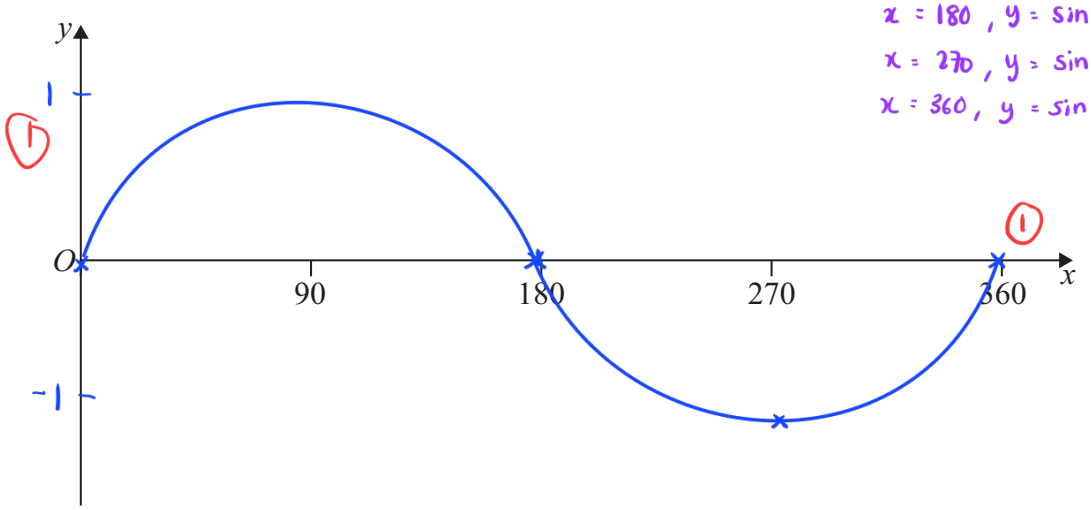
Write down one thing Sana has done wrong.

The graph should start at (0,1). Because y value cannot be 0 since $3^0 = 1$ - (1)

(Total for Question 2 is 1 mark)

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

when $x = 0$, $y = \sin 0 = 0$
$x = 90$, $y = \sin 90° = 1$
$x = 180$, $y = \sin 180° = 0$
$x = 270$, $y = \sin 270° = -1$
$x = 360$, $y = \sin 360° = 0$



(2)

(b) Solve the equation $2\sin x° = -1$ for $0 \leqslant x \leqslant 360$

$2 \sin x° = -1$

$\sin x° = -\frac{1}{2}$

since $\sin 30° = \frac{1}{2}$,

for $-\frac{1}{2}$, x should be within $180°$ to $360°$ range

$x° = 180° + 30°$ and $360° - 30°$

$= 210°$ and $330°$

$210°$, $330°$

(2)

(Total for Question 3 is 4 marks)