

Practise q's:

- 1) a) Draw sketch graphs of the following (on separate axes) where $x \in [0^\circ; 360^\circ]$.

$$f(x) = \sin x - 1$$

$$g(x) = \tan x$$

Now use the graphs to answer the following;

- b) Give the period of;

i) f

ii) g

- c) Give the amplitude of $f(x)$

- d) What is the range of;

i) f

ii) g

- e) State the domain of;

i) f

ii) g

- f) For which values of x is $f(x)$;

i) increasing

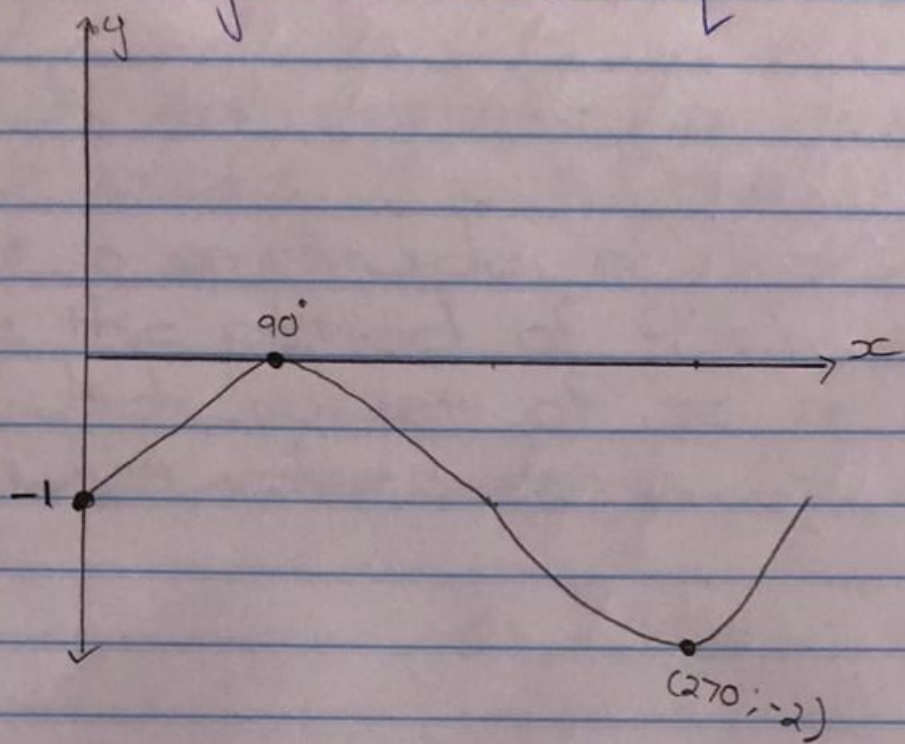
ii) decreasing.

- g) Write the equations of the asymptotes of $g(x)$.

2) Given : $f(x) = 2 \tan x$
 $h(x) = \cos x + 1$

- a) Sketch both graphs on same set of axes, $x \in [-180^\circ; 180^\circ]$
- b) What is amplitude of $h(x)$
- c) Give the period of $f(x)$
- d) For which values of x is $h(x)$ decreasing
- e) For which values of x is $h(x) \leq 0$

3) a) Determine equation of following;
 $y = a \sin x + q$



- b) Give the range of the graph.
- c) Write down the new equation when graph is shifted 2 units up and reflected round x-axis.