Interpretation of Trig graphs

* Notes on terminology
{let's have a look at what is meant}
{by some of 'notations' that will be used.}

where is the function:
→ increasing → (+) gradient / moving ↑
→ decreasing → (-) gradient / moving ↓
→ undefined → ASYMPTOTES !!
↳ Tan-graph.

$f(x) = 0$ → x-intercepts. (where it cuts the x-axis)

$f(x) > 0$ → where graph is above the x-axis

$f(x) < 0$ → where graph is below the x-axis.

What is the:
→ max value {highest y-value}
→ min value {lowest y-value.}

$f(x) = g(x)$ → When 2 graphs are sketched, this is where they cut each other.

$f(x) \geq g(x)$ → where is f above the g(x) graph.

$f(x) \leq g(x)$ → where is g above the graph f(x).

Domain: $x \in$ .....
- the x-values the graph is sketched over.

Range: $y \in$ .....
- the y-values the graph covers.

Examples:

1) Given $f(x) = 3 \sin x$ and
$g(x) = \cos x - 2$, $x \in [0°; 360°]$

a) What is the period of $f(x)$?
b) State the amplitude of $f(x)$?
c) Give the amplitude of $g(x)$.
d) Sketch $f(x)$ and $g(x)$ on separate axes.
e) Use the graphs to answer the following.
For which values of x is;
i) $f(x) \geq 0$
ii) $g(x)$ increasing
iii) $f(x) = 0$
f) What is the maximum value of;
i) $f(x)$
ii) $g(x)$
g) What is minimum value of;
$f(x)$
$g(x)$