EXERCISE 1

1. Sketch the graphs of each of the following functions on separate axes for the interval $x \in [0°; 360°]$. Write down the maximum and minimum value and the amplitude of each function. Indicate the coordinates of the intercepts with the axes.

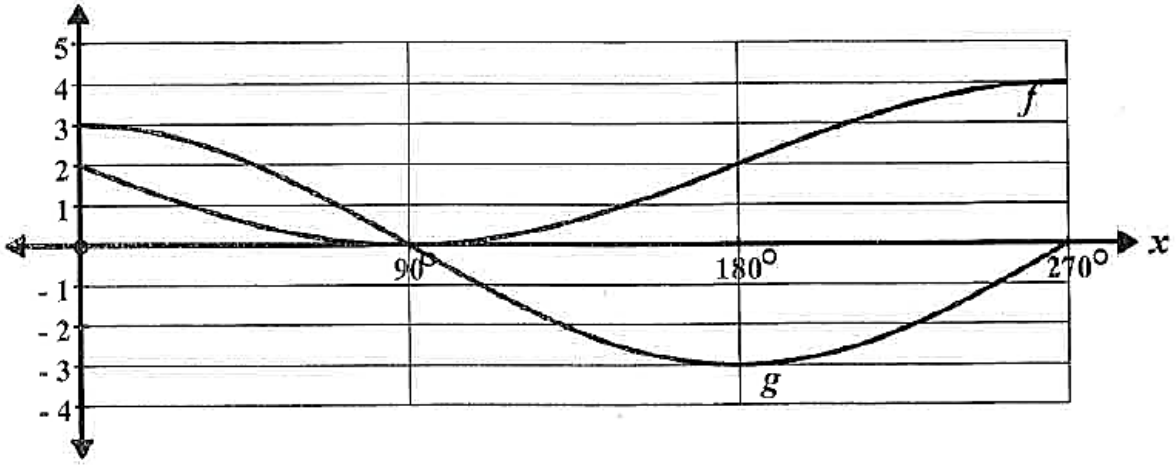
   (a) $y = -3\sin x$ (b) $y = 4\cos x$ (c) $y = -2\cos x$

   (d) $y = \sin x - 1$ (e) $y = \frac{1}{2}\sin x$ (f) $y = \sin x + 2$

   (g) $y = 2\sin x - 1$ (h) $y = \cos x + 1$ (i) $y = -\tan x + 1$

   (j) $y = 2\sin x - 1$ (k) $y = 1 - 2\cos x$

2. The diagram below represents the graphs of two functions, f and g.



(a) Write down the equation of f and g.

(b) Write down the minimum and maximum values for f and g.

(c) Write down the amplitude for f and g.

(d) Determine graphically the value of $f(180°) - g(180°)$

(e) Determine graphically the value(s) of x for which:

   (1) $g(x) \geq 0$ (2) $g(x) < 0$ (3) $g(x) > 0$

   (4) $f(x) = g(x)$ (5) $f(x) > g(x)$ (6) $f(x) = 0$

   (7) $g(x) = -3$ (8) $f(x) - g(x) = 4$