A1) Graph $y = \cos x$ for $-2\pi \leq x \leq 2\pi$.

B1) Determine the amplitude, period, domain, range and a general expression to represent the zeros of $y = \cos x$.

A2) Graph $y = \tan x$ for $-2\pi \le x \le 2\pi$.

B2) Determine the amplitude, period, domain, range and a general expression to represent the zeros of $y = \tan x$.

C1) State the amplitude of $y = -4\cos x$.

C2) Describe how the graph of $y = \sin x - 8$ compares to the graph $y = \sin x$.

C3) Describe how the graph of $y = \cos\left(x + \dfrac{5\pi}{3}\right)$ compares to the graph $y = \cos x$.

C4) Describe how the graph of $y = \sin 2\theta$ compares to the graph $y = \sin\theta$.
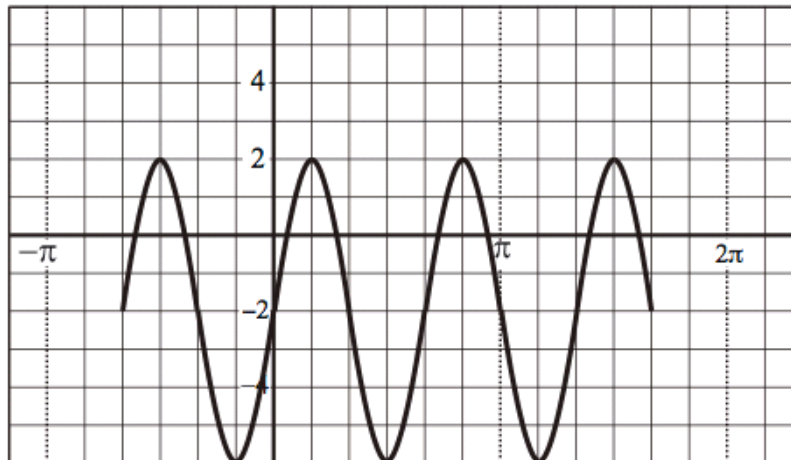
D1) Sketch the graph $y = \sin\left(x - \dfrac{5\pi}{6}\right)$.

D2) Sketch the graph of $y = 3\sin 2\left(x + \dfrac{\pi}{3}\right) - 1$.

E1) Determine the amplitude, period, phase shift, domain, and of the function $y = 2\sin 3\left(x - \dfrac{5\pi}{6}\right) + 4$.
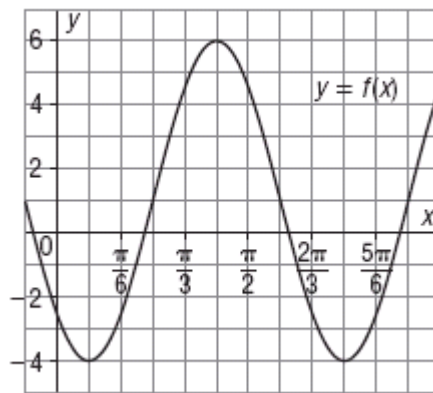
F1) Given the following graph, determine the values of a, b, c, and d and write an equation to represent the function.

D3) Sketch the graph of $y = 4\cos\dfrac{2\pi}{8}(x-2)+1$.

E2) Determine the amplitude, period, phase shift, domain, and range of the function $y = -3\sin 4\left(x + \dfrac{5\pi}{4}\right) - 5$.

F2) Given the following graph, determine the values of a, b, c, and d and write an equation to represent the function.

G1) Andrea, a local gymnast, is doing timed bounces on a trampoline. The mat is 1 metre above the ground. When she bounces up, her feet reach a height of 3 metres above the mat, and when she bounces down her feet depress the mat by 0.5 metres. Once Andrea is in rhythm her coach uses a stopwatch to make the following readings:
- At the highest point the reading is 0.5 seconds.
- At the lowest point the reading is 1.5 seconds.
Write an equation that models this situation.

H1)
a) Determine how long it takes for Andrea to complete once cycle.

b) Determine how high Andrea will be above the ground after 10 seconds.