1. Consider \( f(x) = \begin{cases} 3 + x^2, & \text{for } x < 0 \\ \sin x, & \text{for } 0 \leq x < 2\pi \end{cases} \)

(a) Graph \( f \) is shown below.

(b) The domain of \( f \) is \((-\infty, 2\pi)\).

(c) The range of \( f \) is \([-1, 1] \cup (3, \infty)\).

2. The graph of \( f \) is shown below along with graphs for \( g \) & \( h \).

(a) Shifting the graph of \( f \) vertically by two units gives the graph of \( g(x) = f(x) + 2 \).

(b) Shifting the graph of \( f \) one unit to the left gives the graph of \( h(x) = f(x + 1) \).