1. You are given that the point \((1, 2)\) is on the graph of \(y = f(x)\). Find one point on the graph of \(y = g(x)\) where \(g(x) = f\left(\frac{x+1}{2}\right) - 3\).

2. Find the equations of all (vertical and horizontal) asymptotes of the function \(f(x) = \frac{5x^2 - 3}{x^2 - 3x - 4}\).

3. The voltage of a certain electric outlet is a sinusoidal function of time. Typically, the voltage varies between 0 and 80 volts 10 times every second. Find a possible formula for the function \(h\) expressing voltage as a function of time \(t\), assuming that the voltage is 0 volts at time 0. Be sure to define all variables carefully.