1. Let \( f(x) = 5\cos(3x) + 1 \).
   a). Find the amplitude and period of \( f \).
   b). Find one value of \( x \) such that \( f(x) = 0 \).

2. The voltage of a certain electric outlet is a sinusoidal function of time. Typically, the voltage varies between 0 and 100 volts ten times every second. Find a possible formula for the function \( f \) expressing voltage as a function of time \( t \), assuming that the voltage is 50 volts at time 0. Be sure to define all variables carefully.