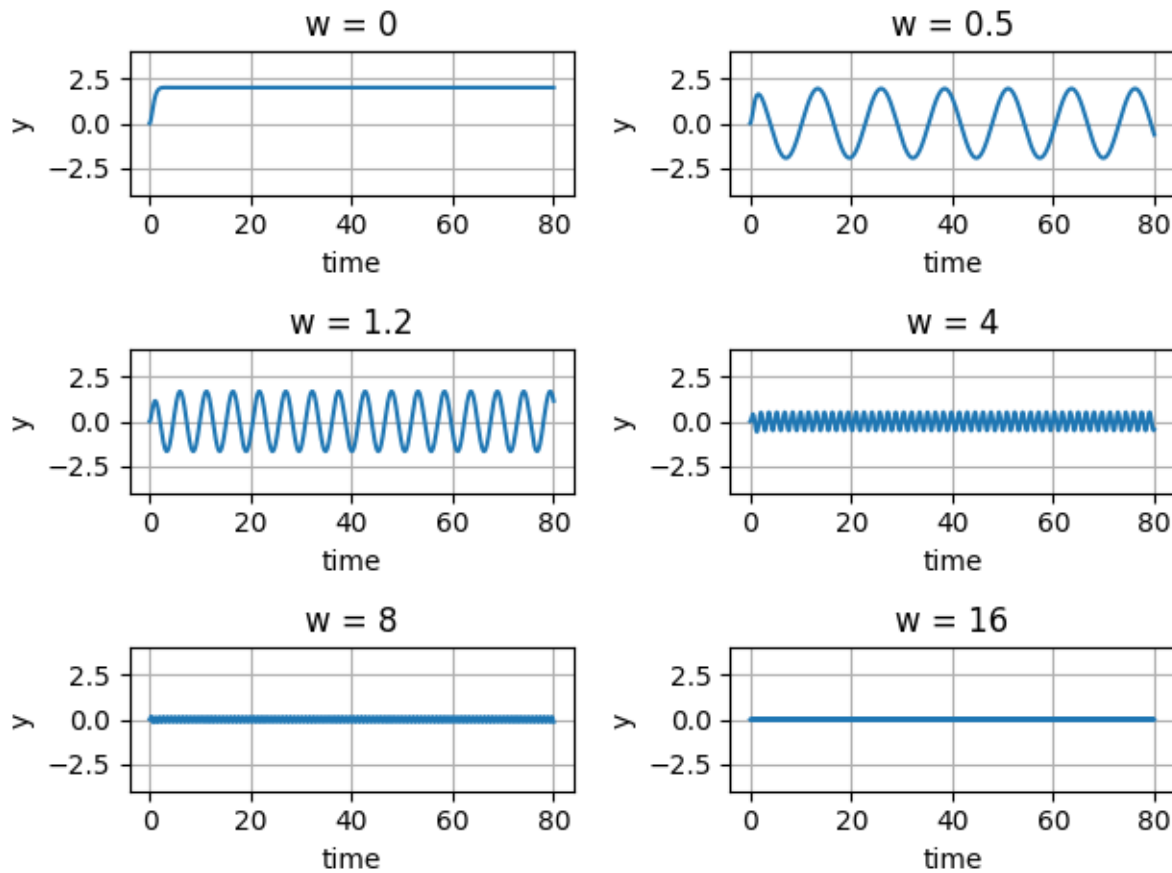
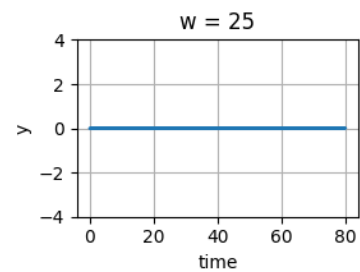
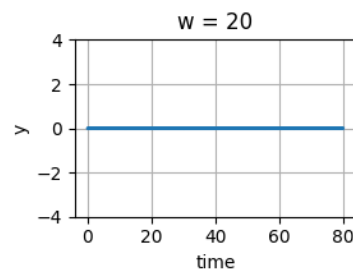
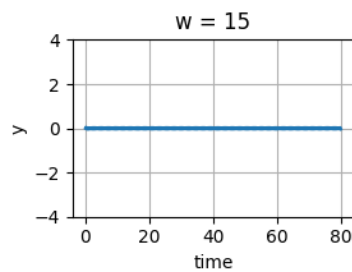
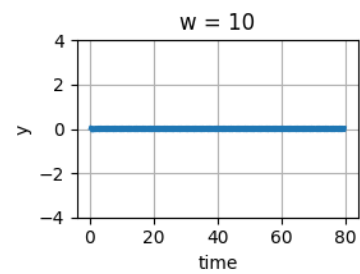
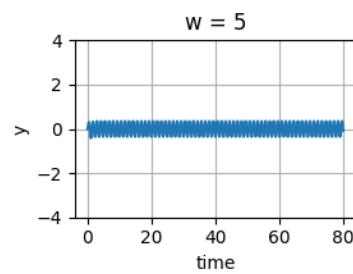
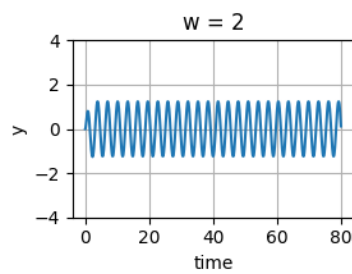
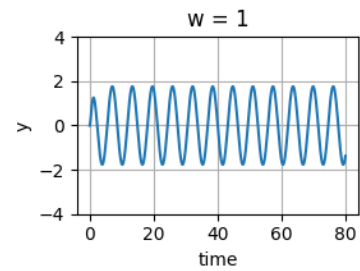
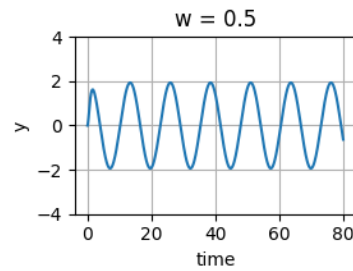
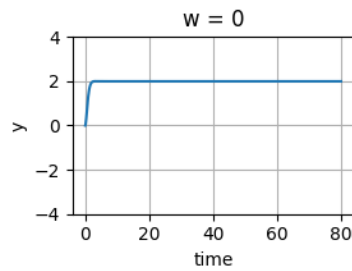


Problem 1:

Plots of $Q(t)$ with different frequencies for the input voltage

Problem 2:

Plots of $Q(t)$ with more frequencies for the input voltage

As seen above, $A(w)$ gets smaller for $30 < t < 80$ and stays close to and approximately zero.