AC Circuits Homework 2

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Problem 1 (1.a)**.** *Consider an RLC circuit with source voltage* $V_s = V_0 sin(\omega t)$*. Determine the current* $I = I_0 sin(\omega t + \phi)$*.*

Solution 1 (1.a)**.** Our defining differential equation is

$$V_S = \frac{1}{C}Q(t) + R\frac{dQ}{dt} + L\frac{d^2Q}{dt^2}$$