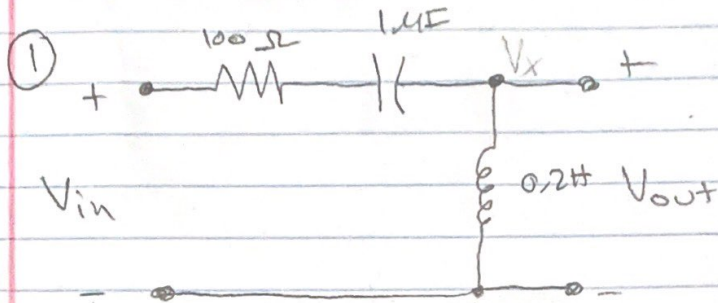


Quiz 6



$$f = \frac{1}{2\pi LC} = 356 \text{ Hz}$$

$$X_C = -j \left(\frac{1}{\omega C} \right) = -j2809$$

KCL @

$$X_L = j\omega L = j71.2$$

$$\frac{V_{out} - V_{in}}{100 + X_C} + \frac{V_{out}}{X_L} = 0$$

$$\frac{V_{out} - V_{in}}{100 - j2809} + \frac{V_{out}}{j71.2} = 0$$

$$V_{out} \left[\frac{1}{100 - j2809} + \frac{1}{j71.2} \right] = \frac{V_{in}}{100 - j2809}$$

$$\frac{V_{out}}{V_{in}} = \frac{1}{100 - j2809} + \frac{1}{j71.2}$$

$$\frac{V_{out}}{V_{in}} = \frac{1 + 100 - j2809}{j71.2}$$

$$\frac{V_{out}}{V_{in}} = 1 + (-39.5 - j1.4)$$