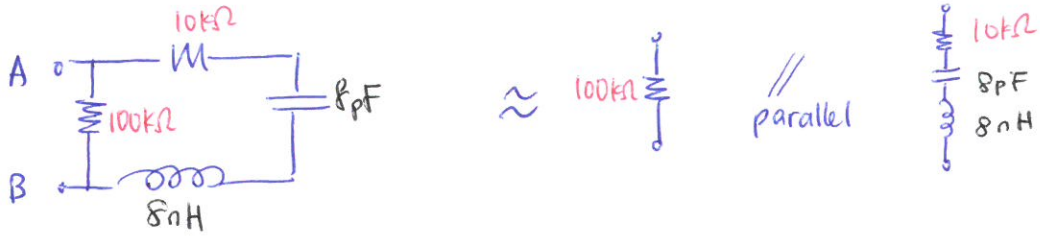
Example #1

9/15

The circuit can be redrawn,



$$Z = \frac{100\,k\Omega \cdot \left(10k\Omega + \frac{1}{jw\,8pF} + jw\,8nH\right)}{100k\Omega + 10k\Omega + \frac{1}{jw\,8pF} + jw\,8nH}$$

multiply $\boxed{jw\,8pF}$ on denominator & numerator

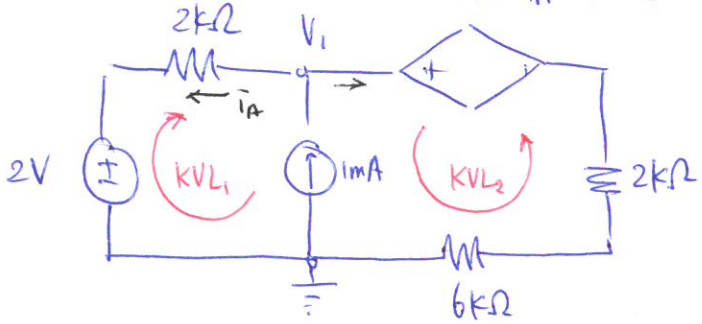
Then

$$Z = \frac{100k\Omega\left(jw\,80\,nS + 1 - w^2 \cdot 64 \cdot 10^{-21}\,s^2\right)}{jw\,80\,nS + 1 - w^2 \cdot 64 \cdot 10^{-21}\,s^2}$$

//

$6k\Omega \cdot i_A$ ← given as voltage (not as current or resistor)

Example #2



↓ $-i_A + 1mA$ by KCL

KVL_1: $2V + 2k\Omega \cdot i_A - V_1 = 0 \quad \cdots ①$

KVL_2: $(6+2k\Omega)(-i_A + 1mA) + 6k\Omega \cdot i_A - V_1 = 0 \quad \cdots ②$

$\rightarrow \quad 8k\Omega(-i_A + 1mA) + 6k\Omega \cdot i_A - V_1 = 0$

Eq ① − ②

$2V + 2k\Omega \cdot i_A - V_1 - 8k\Omega(-i_A + 1mA) - 6k\Omega \cdot i_A + V_1 = 0$

$2V + 2k\Omega \cdot i_A + 8k\Omega i_A - 8V - 6k\Omega \cdot i_A = 0$

$4k\Omega \cdot i_A = 6V$

thus $\boxed{i_A = 1.5mA}$