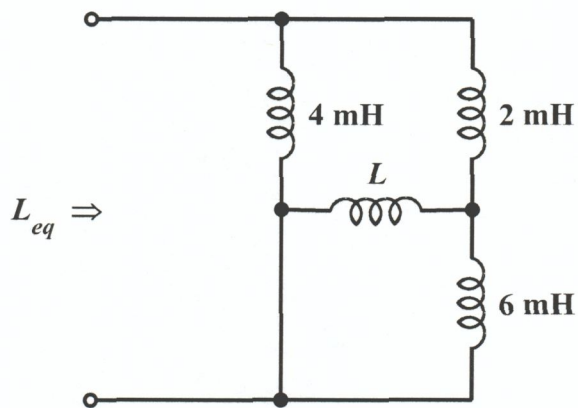


EE 2240  
Problem #07

Find the value of  $L$  so that the equivalent inductance will be 2 mH.



$$L_{eq} = 4\text{mH} \parallel [2\text{mH} + (L \parallel 6\text{mH})] = 2\text{mH}$$

$$\Rightarrow 2\text{mH} + (L \parallel 6\text{mH}) = 4\text{mH}$$

$$L \parallel 6\text{mH} = 2\text{mH}$$

$$\frac{6 \times L}{6 + L} = 2 \Rightarrow 6L = 12 + 2L$$

$$4L = 12$$

$$L = 3\text{mH}$$