

Chapter 6, Solution 52.

Using Fig. 6.74, design a problem to help other students better understand how inductors behave when connected in series and when connected in parallel.

Although there are many ways to work this problem, this is an example based on the same kind of problem asked in the third edition.

Problem

Find L_{eq} in the circuit of Fig. 6.74.

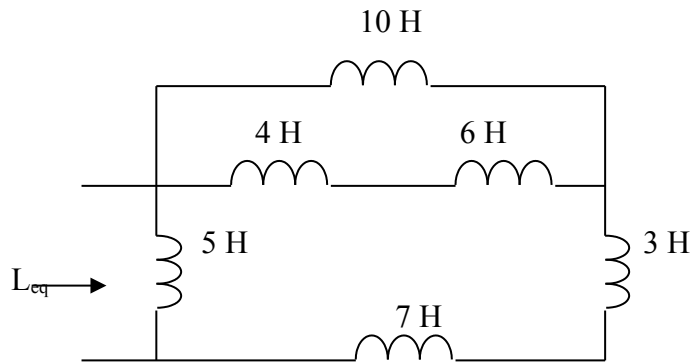


Figure 6.74 For Prob. 6.52.

Solution

$$L_{eq} = 5 // (7 + 3 + 10 // (4 + 6)) = 5 // (7 + 3 + 5) = \frac{5 \times 15}{20} = \underline{3.75 \text{ H}}$$