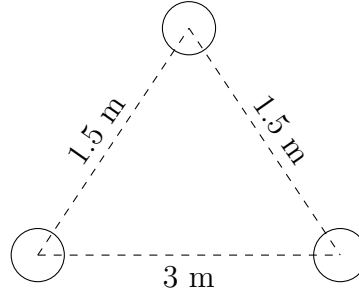
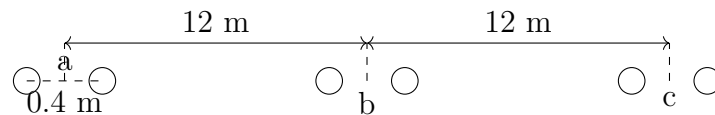


Problem Set - 1
L & C Parameters

1. A single circuit 3-phase line operated at 50 Hz is arranged as follows. The conductor diameter is 0.6 cm. Determine the inductance per km. (**Ans: 1.339 mH/km**)

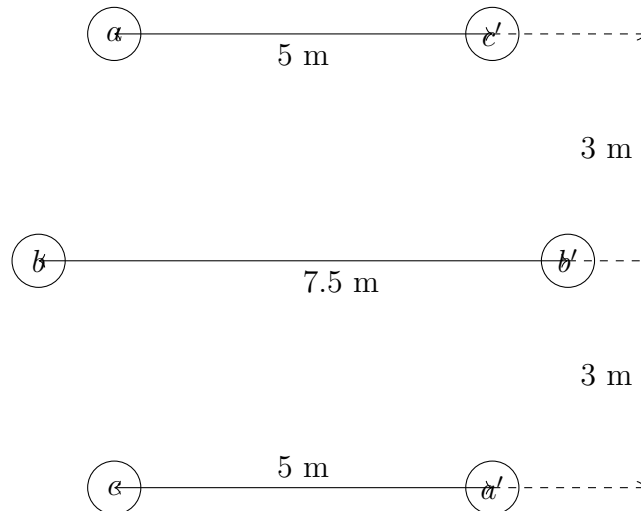


2. Determine the inductance per km of a 3-phase transmission line having conductors per phase and arranged as shown here.



The diameter of each conductor is 25 mm and carries 50 % of the phase current. (**Ans: 1.098 mH/km**)

3. Determine the inductance per km of a double circuit 3-phase line as shown here.



The diameter of each conductor is 15 mm. (**Ans: 0.631 mH/km**)

4. A three phase 50 Hz line has flat horizontal spacing. The conductors have an outside diameter of 3.28 cm with 12 m between conductors. Determine the capacitance per km of the line. (**Ans: 0.0815 μ F/km**)
5. A single circuit three phase transposed line is composed of four ACSR conductors per bundle with 45 cm spacing between the conductors of the bundle. The spacing between the bundle centers is 14 m, 14 m and 28 m. Determine the inductance and capacitance per phase per km of the line. All the conductors have a diameter of 4.5 cm. (**Ans: 0.8760 mH/km, 0.0129 μ F/km**)