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[ STUDENT > restart;
[ STUDENT > Eq1:=Vab=Va-Vb;
                                     Eq1 := Vab = Va - Vb
[ STUDENT > Eq2:=Vbc=Vb-Vc;
                                     Eq2 := Vbc = Vb - Vc
[ STUDENT > Eq3:=Vca=Vc-Va;
                                     Eq3 := Vca = Vc - Va
[ STUDENT > solve({Eq1,Eq2,Eq3},{Va,Vb,Vc});
[ STUDENT > # above was meaningless result. System is underdefined.
Need one more equation.
[ STUDENT >
[ STUDENT > # Add capacitive balance ungrounded system,
[ STUDENT > Eq4:=Va+Vb+Vc=0;
                                     Eq4 := Va + Vb + Vc = 0
[ STUDENT > soln:=solve({Eq1,Eq2,Eq4},{Va,Vb,Vc});
                                     soln := { Va =  $\frac{1}{3} Vbc + \frac{2}{3} Vab$ , Vb =  $\frac{1}{3} Vbc - \frac{1}{3} Vab$ , Vc =  $-\frac{1}{3} Vab - \frac{2}{3} Vbc$  }
[ STUDENT > soln[1];
                                     Va =  $\frac{1}{3} Vbc + \frac{2}{3} Vab$ 
[ STUDENT > soln[2];
                                     Vb =  $\frac{1}{3} Vbc - \frac{1}{3} Vab$ 
[ STUDENT > soln[3];
                                     Vc =  $-\frac{1}{3} Vab - \frac{2}{3} Vbc$ 
[ STUDENT > # Rearrange above solutions using Vab+Vbc+Vca=0 which
(w when combined with Eq1, Eq2) is equivalent to Eq3)
[ STUDENT >
[ STUDENT > soln[1];
                                     Va =  $\frac{1}{3} Vbc + \frac{2}{3} Vab$ 
[ STUDENT > subs(Vab = -Vbc-Vca,soln[2]);
[ STUDENT >
                                     Vb =  $\frac{2}{3} Vbc + \frac{1}{3} Vca$ 
[ STUDENT > subs(Vbc = -Vca-Vab,soln[3]);
                                     Vc =  $\frac{1}{3} Vab + \frac{2}{3} Vca$ 
[ STUDENT > # The above 3 equations match the op and arise from

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| equations 1 through 4  
[ STUDENT >
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