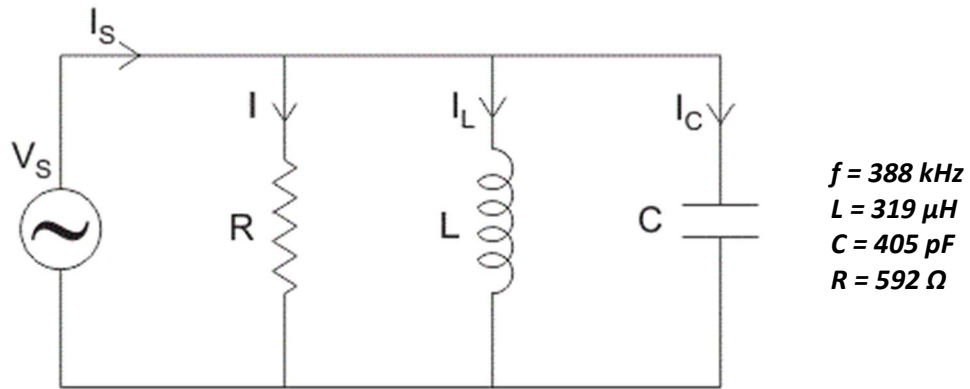
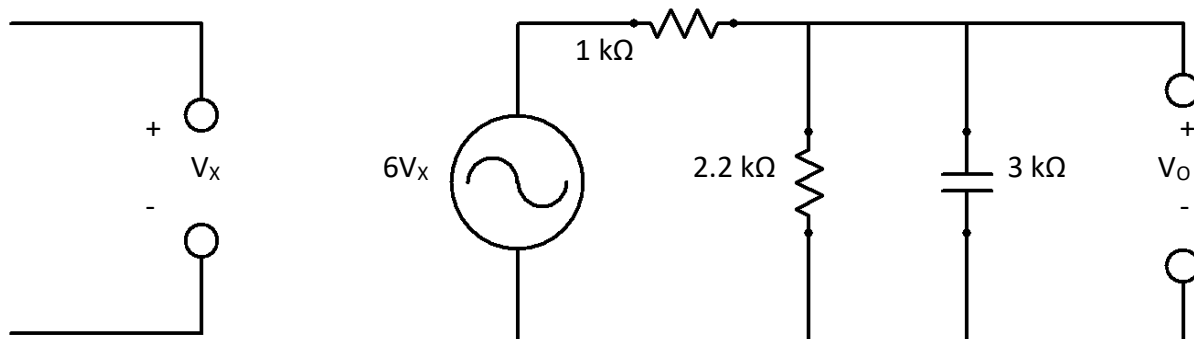


- 32.** A $4.7\text{ k}\Omega$ resistor has a conductance of:
- a. 213 mS
 - b. $213\text{ }\mu\text{S}$
 - c. 4.7 S
 - d. 4.7 mS
- 33.** At 62 kHz , a 527 nF capacitor has a susceptance of:
- a. 4.87 mS
 - b. 4.87 S
 - c. 205 S
 - d. 205 mS
- 34.** At 261 Hz , a 682 mH inductor has a susceptance of:
- a. 1.12 kS
 - b. 1.12 S
 - c. $894\text{ }\mu\text{S}$
 - d. 894 mS
- 35.** If $Z_L = (503 + 223j)\text{ }\Omega$, $Y_L =$
- a. $(223 + 503j)\text{ S}$
 - b. $(1.66 + 0.737j)\text{ mS}$
 - c. $(1.66 - 0.737j)\text{ mS}$
 - d. 550 S



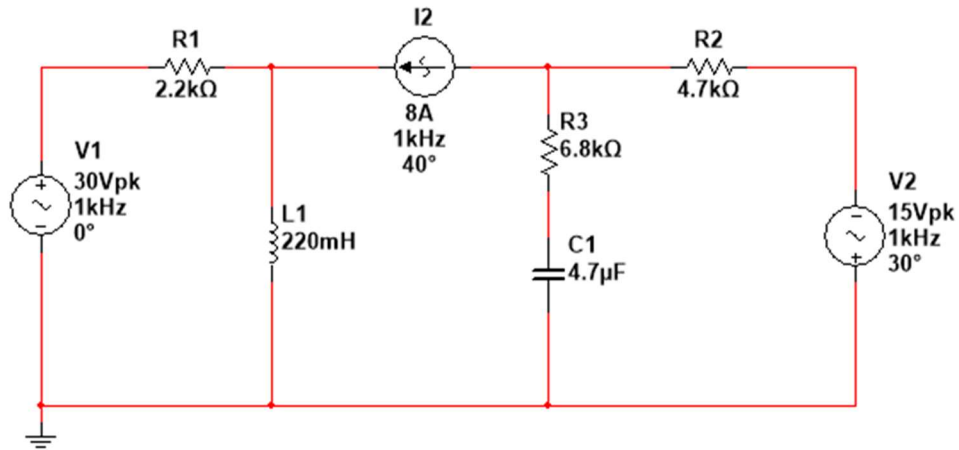
36. Total admittance seen by the source is:

37. If $I_s = (1.2 \angle 70^\circ) \text{ A}$, $I_L =$



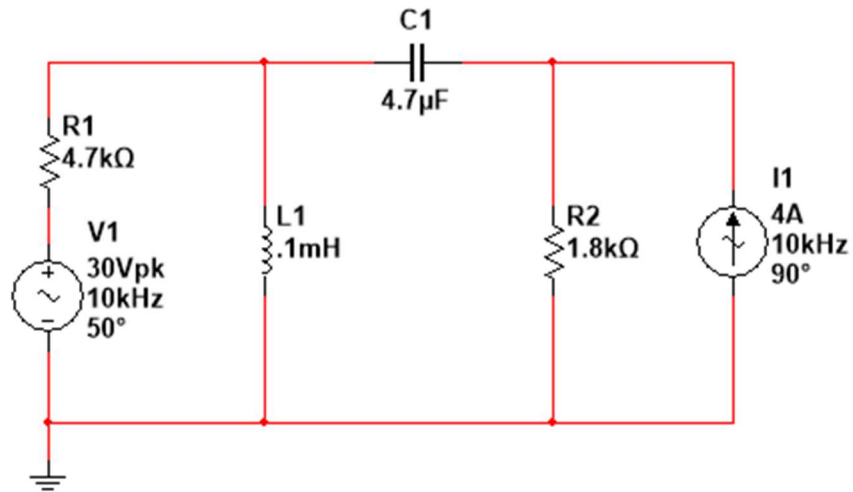
38. If $V_x = (8 \angle 10^\circ)\text{ V}$, what is V_o ?

39. Draw the Thevenin equivalent circuit external to V_o , assuming $V_x = (8 \angle 10^\circ)\text{ V}$.



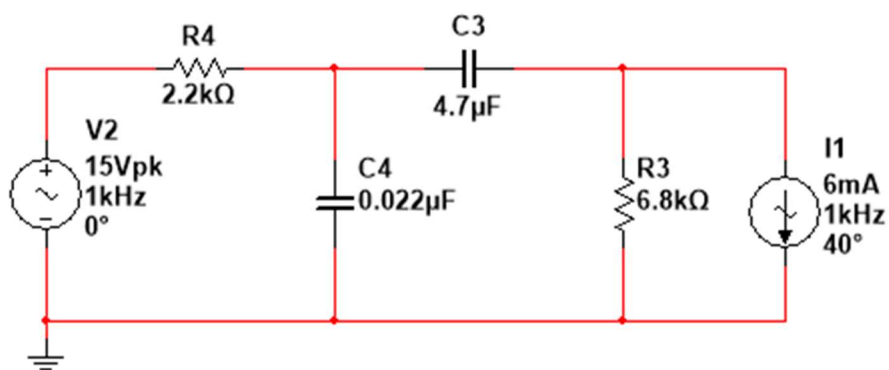
40. Using **mesh analysis**, find the 3 loop currents for the circuit above.

41. How much power is dissipated by the 3 resistors?



42. Using **nodal analysis**, find the voltage at all nodes in the circuit above.

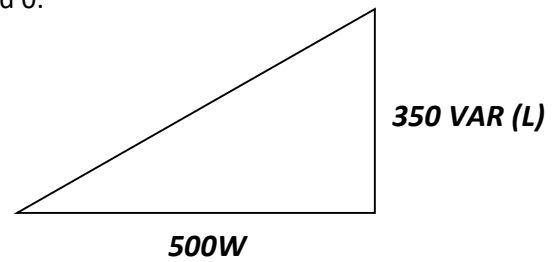
43. What is the current through the capacitor C_1 ?



44. Using **superposition**, find the voltage across R_3 .

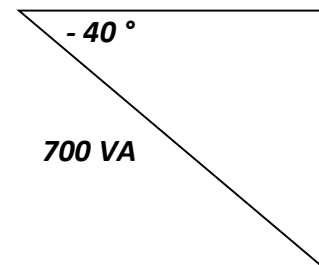
45. How much power is supplied by the source I_1 ?

46. For the power triangle to the right, find S and θ .

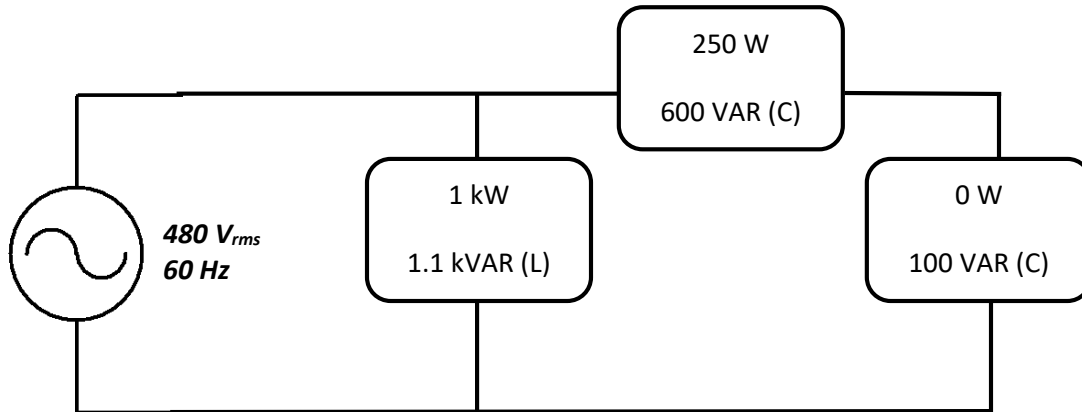


47. For the power triangle above, if the source voltage is $(120 \angle 0^\circ) V_{\text{rms}}$, what is the source current?

48. For the power triangle to the right, find P and Q .



49. If the source voltage is $240 V_{\text{rms}}$ and the frequency is 50 Hz , what value of inductor would be needed to achieve unity power factor in the system above?



50. Draw a fully-labeled power triangle for the system above (P, Q, S, θ)

51. For the 1 kW load, determine what component(s) comprise it.

52. What component (type and value) would be needed to correct the system power factor?

Changelog:

1. Answers to #35 were updated.