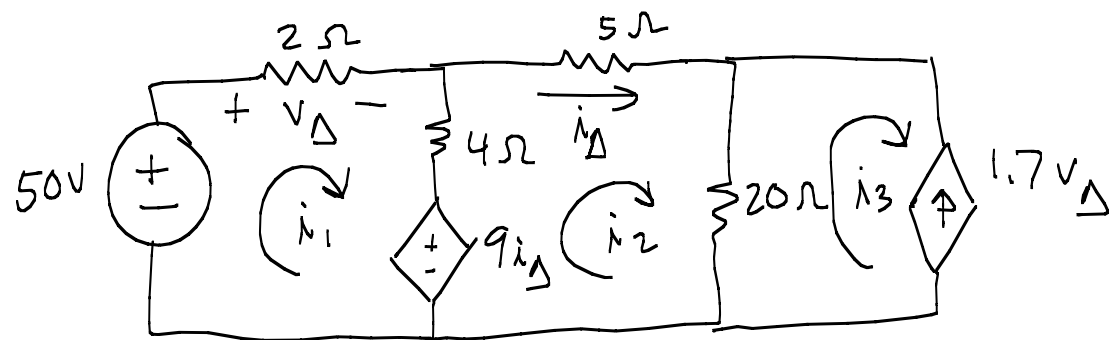


Problem 2

Determine the mesh-current equations and any needed constraint equations



Mesh ①

$$-50V + i_1(2\Omega) + (i_1 - i_2)(4\Omega) + 9i_\Delta = 0$$

Mesh ②

$$-9i_\Delta + (i_2 - i_1)(4\Omega) + i_2(5\Omega) + (i_2 - i_3)(20\Omega) = 0$$

Mesh ③

$$i_3 = -1.7V_\Delta$$

Constraint Equations

$$i_\Delta = i_2$$

$$V_\Delta = i_1(2\Omega)$$