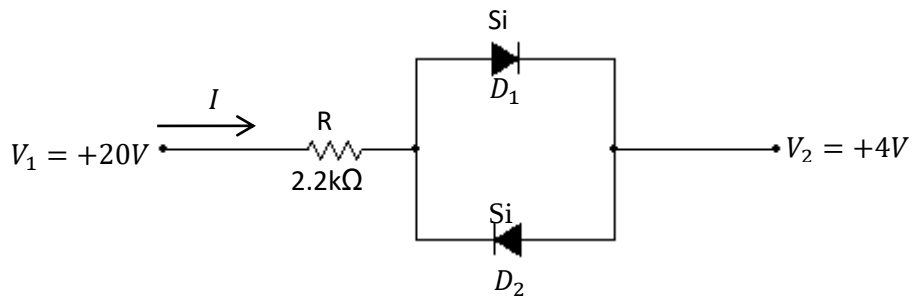
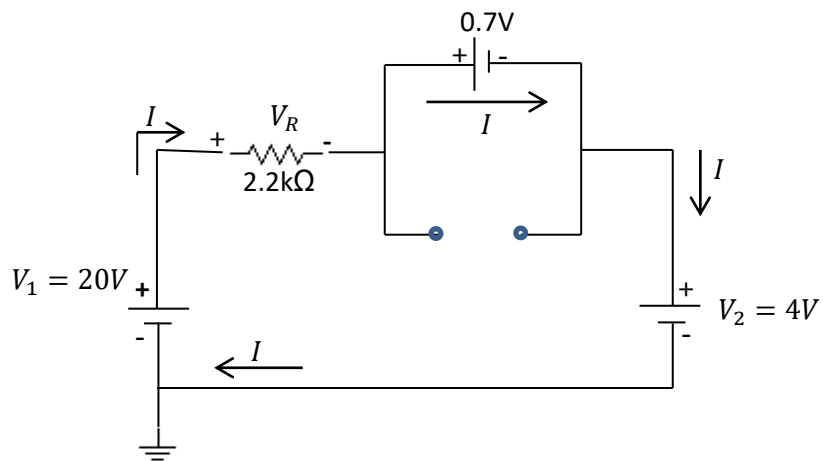


Example: Determine the current I for the circuit.

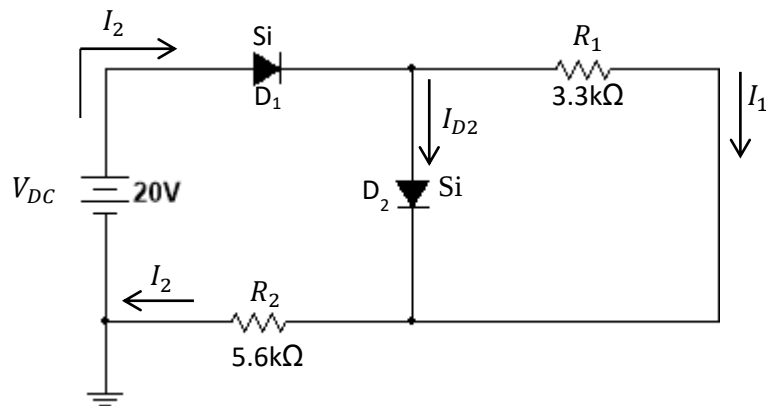


- Equivalent Circuit Model is:

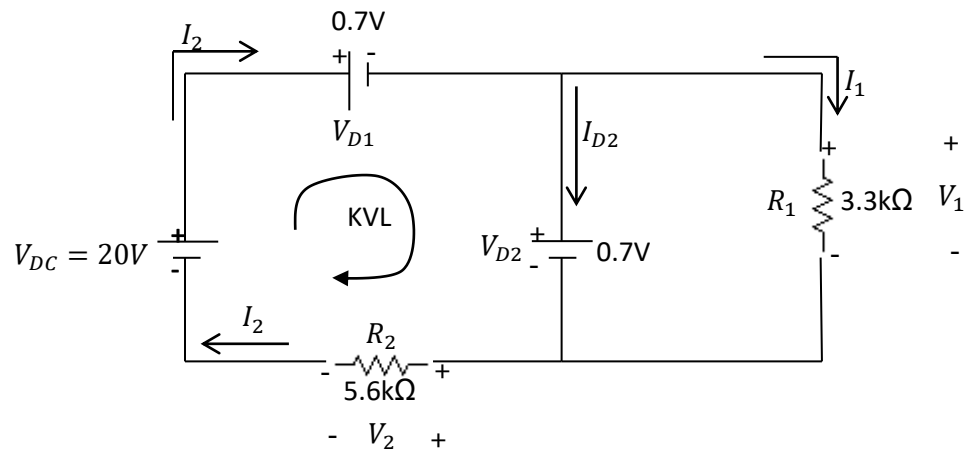


$$I = \frac{V_1 - V_2 - 0.7V}{R} = \frac{20V - 4V - 0.7V}{2.2k\Omega} = 6.95 \text{ mA}$$

Example: Determine the currents I_1 , I_2 and I_{D2} for the network:



- Equivalent Circuit Model is:



$$I_1 = \frac{V_{D2}}{R_1} = \frac{0.7V}{3.3k\Omega} = 0.212 \text{ mA}$$

Applying KVL around the indicated loop in the clockwise direction:

$$-V_2 + V_{DC} - V_{D1} - V_{D2} = 0$$

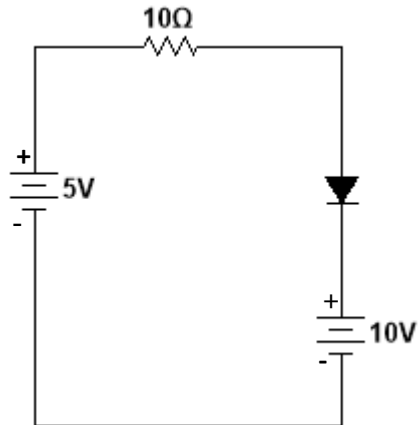
$$V_2 = V_{DC} - V_{D1} - V_{D2} = 20V - 0.7V - 0.7V = 18.6V$$

$$I_2 = \frac{V_2}{R_2} = \frac{18.6V}{5.6k\Omega} = 3.32 \text{ mA}$$

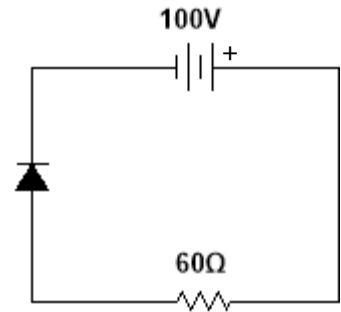
$$I_{D2} = I_2 - I_1 = 3.32 \text{ mA} - 0.212 \text{ mA} = 3.108 \text{ mA}$$

Example: Determine whether each diode in circuits below is forward or reverse biased.

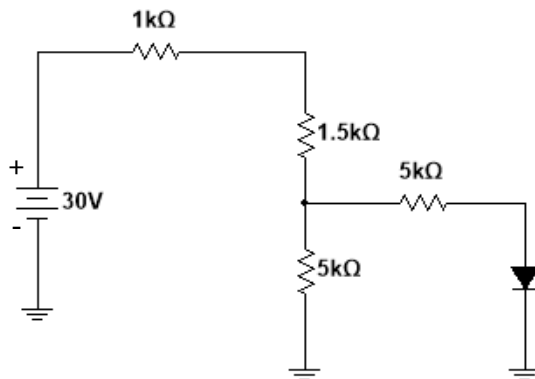
Reverse Bias



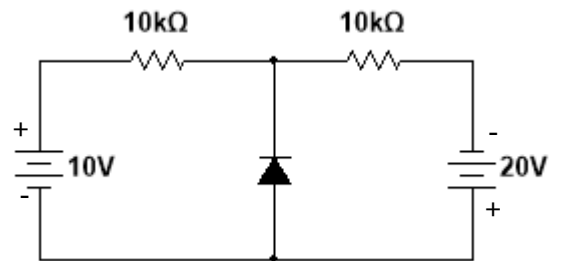
Forward Bias



Forward Bias



Forward Bias



Example: Consider the meter indication in each circuit below and determine whether the diode is functioning properly, or whether it is open or shorted.

