

TABLE 9.6

	Calculated	Measured	% Difference
V_1	12.1V	12.06V	0.005%
V_2	9.12V	9.26V	0.015%
V_3	2.76V	2.79V	0.011%

$$V_1 = E = 12V$$

$$V_2 = E \times \frac{R_2}{R_2 + R_3}$$

$$V_3 = E \times \frac{R_3}{R_2 + R_3}$$

(i) How are the voltages E , V_1 , and the sum of V_2 and V_3 related? Use Table 9.6 to determine the sum of V_2 and V_3 .

Part 3

(a) Construct the series-parallel network of Fig. 9.5 and insert the measured value of each resistor.

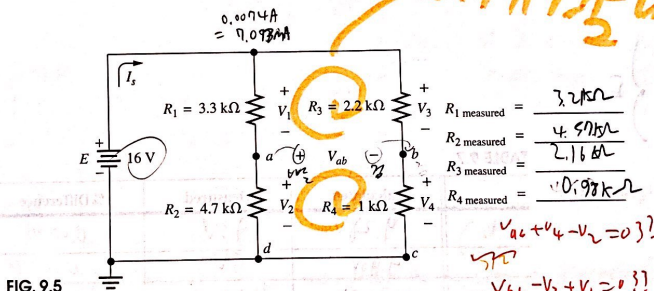


FIG. 9.5

(b) How is the total voltage across the two series elements R_1 and R_2 related to the applied voltage E ? Why?

$$V_1 = 6.6V$$

$$V_2 = 9.3V$$

$$V_3 = 11V$$

$$V_4 = 5V$$

$$V_{ab} = 0.26V + 2.71V = 4.36V$$