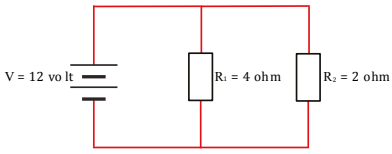
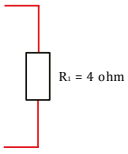
Finding the the power dissipated by resistors in parallel

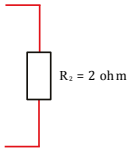




$$I_1 = \frac{V}{R_1}$$

$$= \frac{12 \text{ volt}}{4 \text{ ohm}}$$

= 3 ampere



$$I_2 = \frac{V}{R_2}$$

$$= \frac{12 \text{ volt}}{2 \text{ ohm}}$$

= 6 ampere

$I = I_1 + I_2$

= 3 ampere + 6 ampere

= 9 ampere

$P_1 = I_1 \times V$

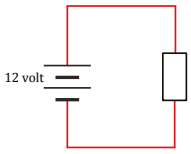
= 3 ampere x 12 volt

= 36 watt

$P_2 = I_2 \times V$

= 6 ampere × 12 volt

= 72 watt



$$R = \frac{V}{I}$$

$$= \frac{12 \text{ volt}}{9 \text{ ampere}}$$

= 1.3 ohm (2 sf)

$P = V \times I$

= 12 volt x 9 ampere

= 108 watt

$P = P_1 + P_2$

= 72 watt + 36 watt

= 108 watt