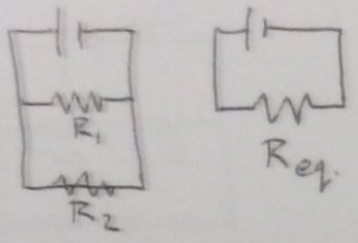
Resistors in Parallel and Series

Resistors in parallel : Share I, same V



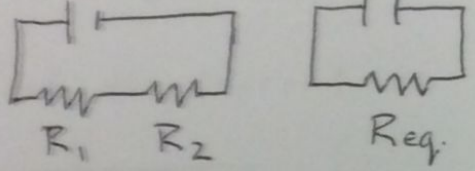
$$I = I_1 + I_2$$

$$\frac{V}{R_{eq}} = \frac{V}{R_1} + \frac{V}{R_2}$$

$$\boxed{\frac{1}{R_{eq}} = \frac{1}{R_1} + \frac{1}{R_2} + \cdots}$$

small resistance as # increases

Resistors in series: same I, share V



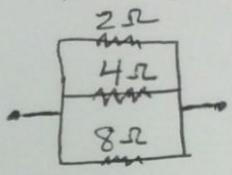
$$V = V_1 + V_2$$

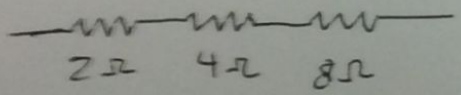
$$IR_{eq} = IR_1 + IR_2$$

$$\boxed{R_{eq} = R_1 + R_2 + \cdots}$$

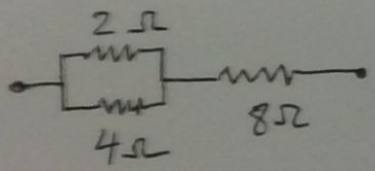
larger resistance as # increases

① Find the equivalent resistance of :

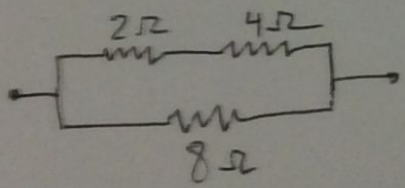


② 

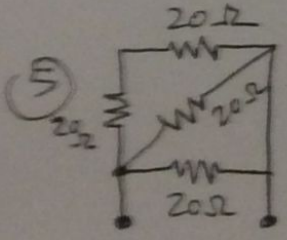
Find the equivalent resistance.

③ 

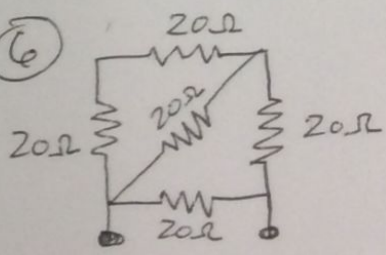
Find the equivalent resistance.

④ 

Find the equivalent resistance.

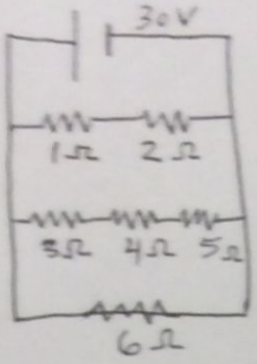
⑤ 

Find the equivalent resistance.

⑥ 

Find Req.

* Find the current in each resistor. Use $I = V/R$



Find the current in each resistor.