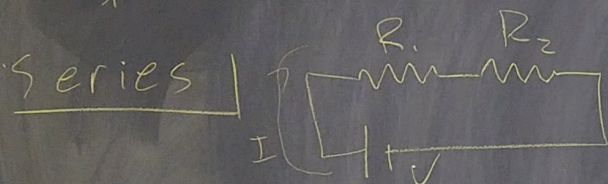


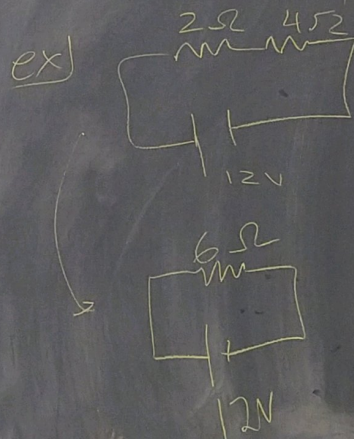
# Resistors in Series & Parallel



In the same line, resistors in series carry the same current.

equivalent resistance

For series  $R_{eq} = R_1 + R_2 + \dots$

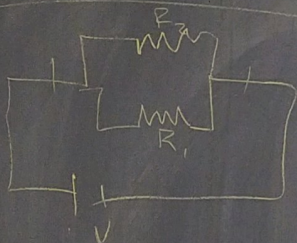


What is the current flowing through the circuit?

$$V = IR$$

$$I = \frac{12V}{6\Omega} = 2 \text{ Amps}$$

# Resistors in Parallel



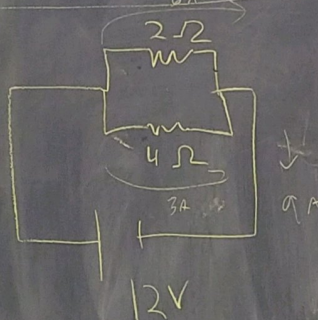
In parallel, they have  
the same voltage drop

Equivalent resistance

For parallel

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

ex)



What is  $R_{eq}$ ?

$$\frac{1}{R_{eq}} = \frac{1}{2} + \frac{1}{4}$$

$$\frac{1}{R_{eq}} = \frac{3}{4}$$

$$R_{eq} = \frac{4}{3} = 1.33 \Omega$$

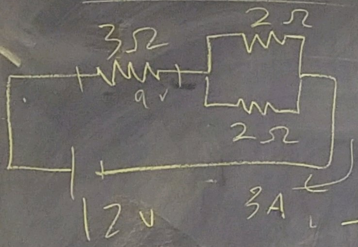


ex) both Series & Parallel

$$V = IR$$

Classwork

Find the equivalent resistance & the current flowing through each circuit



$$\frac{1}{R_{eq}} = \frac{1}{2} + \frac{1}{2}$$

$$\frac{1}{R_{eq}} = \frac{1}{1} \Rightarrow R_{eq} = 1$$

