$$\Delta V = IR$$

$$\mathscr{P} = I\Delta V = I^2 R = \frac{(\Delta V)^2}{R}$$
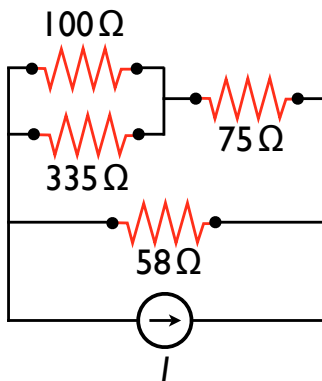
$$[\text{W}] = [\text{A}]\,[\text{V}] = \frac{[\text{V}]^2}{[\Omega]} = [\text{A}]^2\,[\Omega]$$

$$R_{\text{eq,ser}} = R_1 + R_2 + \dots$$

$$R_{\text{eq,par}}^{-1} = R_1^{-1} + R_2^{-1} + \dots$$

Quiz 5: dc Circuits

1. What is the equivalent resistance of the arrangement of resistors at left? You do not need to include the current source in your analysis.

2. **10 points.** A light bulb marked "75 W [at] 120 V" is screwed into a socket at one end of a long extension cord, in which each of the two conductors has a resistance of $0.800\,\Omega$. The other end of the extension cord is plugged into a 120 V outlet. Draw a circuit diagram and find the actual power delivered to the bulb in this circuit.