An unknown resistor is connected between the terminals of a 15 V battery and energy is dissipated at the rate of 9 W. The same resistor is then connected to a 10 V battery. At what rate is energy now dissipated?

1. \[ P = \frac{V^2}{R} \]
   \[ R = \frac{V^2}{P} = \frac{15^2}{9} = 25 \ \Omega \]

2. \[ P = \frac{V^2}{R} = \frac{10^2}{25} = 4 \ W \]