31.28. **Visualize:** The three resistors in Figure Ex31.28 are equivalent to a resistor of resistance R_{eq}.
Solve: Because the three resistors are in parallel,

$$\frac{1}{R_{eq}} = \frac{1}{R} + \frac{1}{200\ \Omega} + \frac{1}{R} = \frac{2}{R} + \frac{1}{200\ \Omega} = \frac{400\ \Omega + R}{(200\ \Omega)R} \Rightarrow R_{eq} = \frac{(200\ \Omega)R}{(400\ \Omega + R)} = \frac{200\ \Omega}{1 + \left(\dfrac{400\ \Omega}{R}\right)}$$

From this equation, we see that (i) $R_{eq} = 0\ \Omega$ if $R = 0\ \Omega$ and (ii) $R_{eq} = 200\ \Omega$ if $R \to \infty$. Thus, $R_{eq} < 200\ \Omega$ for $R < \infty$.