Example 1: Find the total resistor value of Figure 1

\[
\frac{1}{R_T} = \frac{1}{R_1} + \frac{1}{R_2} = \frac{1}{10} + \frac{1}{40} = \frac{5}{40}
\]

\[R_T = \frac{40}{5} = 8 \, \Omega\]

Or

A resistor has conductance \( G \) as

\[G = \frac{1}{R}\]

\[G_T = G_1 + G_2 \quad \text{where} \quad G_T = \frac{1}{R_T}, \quad G_1 = \frac{1}{R_1}, \quad G_2 = \frac{1}{R_2},\]

\[G_T = 0.1 + 0.025 = 0.125 \, S \quad \text{and} \quad R_T = \frac{1}{G_T} = \frac{1}{0.125} = 8 \, \Omega\]