Concept Question 2-13: What is the balanced condition in a Wheatstone bridge?
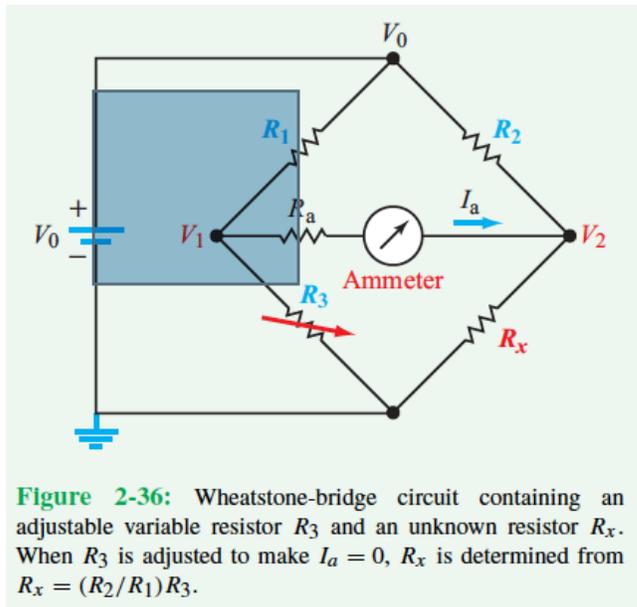

Figure 2-36: Wheatstone-bridge circuit containing an adjustable variable resistor R_3 and an unknown resistor R_x. When R_3 is adjusted to make $I_a = 0$, R_x is determined from $R_x = (R_2/R_1)R_3$.

Balanced condition occurs when $I_a = 0$.