

Concept Question 11-10: How is the secondary-to-primary voltage ratio related to the turns ratio n for Y-Y, Δ - Δ , Y- Δ , and Δ -Y configurations?

$$\frac{V_{Ls}}{V_{Lp}} = \frac{I_{Lp}}{I_{Ls}} = n \quad (\text{Y-Y and } \Delta\text{-}\Delta),$$

$$\frac{V_{Ls}}{V_{Lp}} = \frac{I_{Lp}}{I_{Ls}} = \frac{n}{\sqrt{3}} \quad (\text{Y-}\Delta)$$

and

$$\frac{V_{Ls}}{V_{Lp}} = \frac{I_{Lp}}{I_{Ls}} = \sqrt{3} n \quad (\Delta\text{-Y}).$$