

Chapter 11, Solution 32.

$$I_{\text{rms}}^2 = \frac{1}{2} \left[\int_0^1 (10t^2)^2 dt + \int_1^2 0 dt \right]$$

$$I_{\text{rms}}^2 = 50 \int_0^1 t^4 dt = 50 \cdot \frac{t^5}{5} \Big|_0^1 = 10$$

$$I_{\text{rms}} = \mathbf{3.162 \text{ A}}$$