Chapter 11, Solution 26.

$$T = 4, \qquad v(t) = \begin{cases} 5 & 0 < t < 2 \\ 20 & 2 < t < 4 \end{cases}$$

$$V_{rms}^2 = \frac{1}{4}\left[\int_0^2 10^2\, dt + \int_2^4 (20)^2\, dt\right] = \frac{1}{4}[200 + 800] = 250$$

$$V_{rms} = \mathbf{15.811\ V}.$$