

ERRATA for
PE Electrical and Computer: Power Practice Exam
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Revisions are shown in red.

Solution 7

$$\rho = \frac{R}{2 \times b} \times \pi a^2 = 110 \Omega \cdot \text{m}$$

Solution 9

The average power consumption in each of the four time intervals (i.e., the time integral over the period divided by the duration of the period) is as follows:

Solution 24

THE CORRECT ANSWERS ARE: A, B, C, D

Solution 66

$$S_{\text{motor}} = \sqrt{3}V_1 I_1 \angle \cos^{-1}(\text{pf}) = \sqrt{3}(480)(34) \angle \cos^{-1}(0.75) = 28.3 \angle 41.4^\circ \text{ kVA}$$

$$\begin{aligned} Q_{\text{new}} &= P(\cos^{-1}\theta) \\ &= 21.2(\cos^{-1}0.9) = 10.3 \end{aligned}$$

$$Q_{\text{old}} = [\sin(\cos^{-1} 0.75)][\sqrt{3}(480)(34)] = 18.7$$

$$Q_{\text{new}} = Q_{\text{old}} + Q_{\text{add}}$$

$$\begin{aligned} Q_{\text{add}} &= Q_{\text{new}} - Q_{\text{old}} = 10.3 - 18.7 \\ &= -8.4 \text{ kvar} \end{aligned}$$