

4. (cont.)

$$m = k \left[45A - \frac{81}{4} \sin \theta + \frac{243}{4} \cos \theta \right]_{\theta=0}^{\theta=2\pi}$$

$$m = k \left[45(2\pi) - \frac{81}{4} \sin 2\pi + \frac{243}{4} \cos 2\pi - \left(45(0) - \frac{81}{4} \sin 0 + \frac{243}{4} \cos 0 \right) \right]$$

$$m = k \left[90\pi + \frac{243}{4} (1) - \left(\frac{243}{4} (1) \right) \right]$$

$$m = 90\pi k$$