

44. Using Eq. 7-8, we find

$$W = \vec{F} \cdot \vec{d} = (F \cos \theta \hat{i} + F \sin \theta \hat{j}) \cdot (x \hat{i} + y \hat{j}) = Fx \cos \theta + Fy \sin \theta$$

where  $x = 2.0$  m,  $y = -4.0$  m,  $F = 10$  N, and  $\theta = 150^\circ$ . Thus, we obtain  $W = -37$  J. Note that the given mass value (2.0 kg) is not used in the computation.