

11.8. Solve: (a) $\vec{W} = \vec{F} \cdot \Delta\vec{r} = (-4.0\hat{i} - 6.0\hat{j}) \text{ N} \cdot (3.0\hat{i}) \text{ m} = (-12.0\hat{i} \cdot \hat{i} + 12.0\hat{j} \cdot \hat{i}) \text{ J} = -12.0 \text{ J}.$

(b) $\vec{W} = \vec{F} \cdot \Delta\vec{r} = (-4.0\hat{i} - 6.0\hat{j}) \text{ N} \cdot (-3.0\hat{i} + 2.0\hat{j}) \text{ m} = (12.0 - 12.0) \text{ J} = 0 \text{ J}.$