

6. Using Eq. 7-8 (and Eq. 3-23), we find the work done by the water on the ice block:

$$\begin{aligned} W &= \vec{F} \cdot \vec{d} \\ &= (210\hat{i} - 150\hat{j}) \cdot (15\hat{i} - 12\hat{j}) \\ &= (210)(15) + (-150)(-12) \\ &= 5.0 \times 10^3 \text{ J} . \end{aligned}$$