32. (a) Using Eq.7-48 and Eq. 3-23, we obtain

$$P = \vec{F} \cdot \vec{v} = (4.0\,\mathrm{N})(-2.0\,\mathrm{m/s}) + (9.0\,\mathrm{N})(4.0\,\mathrm{m/s}) = 28\ \mathrm{W}\ .$$

(b) We again use Eq.7-48 and Eq. 3-23, but with a one-component velocity: $\vec{v} = v\hat{\mathrm{j}}$.

$$\begin{aligned} P &= \vec{F} \cdot \vec{v} \\ -12\,\mathrm{W} &= (-2.0\,\mathrm{N})v \end{aligned}$$

which yields $v = 6$ m/s.