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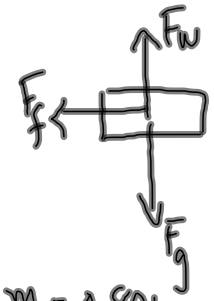
26.



$m = 0.80\,kg$
$\Delta d = 0.72\,m$
$v_1 = 0.25\,m/s$ → a?
$v_2 = 0$

a) $\vec{F}_{net} = m\vec{a}$

$-F_f = ma$ ← We need to find acc.

$v_2^2 = v_1^2 + 2a\Delta d$

$v_2^2 - v_1^2 = 2a\Delta d$

$a = \frac{v_2^2 - v_1^2}{2\Delta d}$

$a = \frac{0^2 - (0.25\,m/s)^2}{2(0.72\,m)}$

$a = -0.0434\,m/s^2$

b) $W = F\Delta d\cos\theta$

$W = (0.0347\,N)(0.72\,m)(\cos 180^\circ)$

$W = -0.025\,J$

OR

$W = \Delta E_k$

$W = E_{k2}^{0} - E_{k1}$

$W = -E_{k1}$

$W = -\frac{1}{2}(0.80\,kg)(0.25\,m/s)^2$

$W = -0.025\,J$

$-F_f = ma$

$-F_f = (0.80\,kg)(-0.0434\,m/s^2)$

$F_f = 0.0347\,N$ (0.035 N)