Net external torque is zero so the angular momentum is conserved

$m = 75\ kg$

$I_m = 920\ kgm^2$

$r = 3m$

$\omega_i = 2.0\ rad/s$

$I_p = mr^2 = 75\ kg\ (3.0\ m)^2 = 675\ kg\ m^2$ moment of inertia of the person after the walk

(a) $L_i = L_f \Rightarrow I_m \omega_i = (I_m + I_p)\omega_f$

$$\Rightarrow \omega_f = \frac{I_m \omega_i}{(I_m + I_p)} = \frac{920 \times 2}{675 + 920} = 1.15\ rad/s$$

(b) $K_i = \frac{1}{2} I_m \omega_i^2 = \frac{1}{2}(920)(2.0)^2 = 1840\ J = 1.8\ kJ$

$K_f = \frac{1}{2}(I_m + I_p)\omega_f^2 = \frac{1}{2}(920 + 675)(1.15)^2 = 1055\ J = 1.1\ kJ$