Basic packet (Work & Energy) → 92-95 (92 & 93 were assigned a few days ago)

Advanced packet (Work & Energy) →
\[ P.T. = P.T. + K.T. + W_f \]

\[ mgh_a = mgh_f + \frac{1}{2} mv_f^2 + \boldsymbol{F} \cdot d \]

\[ 3(10)(15) = (3)(10)(2) + \frac{1}{2}(3) v_f^2 + \left[ 0.1(3)(10)(15)(1) \right] \]

\[ \text{Projectile motion part} \]

\[ v_f = \text{?} \quad \Rightarrow \quad v_0 \text{ projectile motion part} \]
Basic packet (Work & Energy) → 92-95 (92 & 93 were assigned a few days ago)

Advanced packet (Work & Energy) →
\[ P.E. = P.E. + K.E. + W_f + W_f \]
\[ mgh = mgh_f + \frac{1}{2}mv^2 + F_f \cdot \Delta x \]
\[ uF_n \cdot d = -umg \cdot d = -umgdcos C \]

\[
3(10)(15) = (2)(10)(2) + \frac{1}{2}(3) \cdot \frac{1}{2}(15) \cdot \frac{1}{2}(10) \cdot \frac{1}{2}(1) \]

\[ V_L = \]
\[ \Rightarrow V_0 \quad \text{projectile motion part} \]

\[ a_x = 0 \]
\[ a_y = -9.8 \]
\[ V_{0y} = V_0 \sin \theta = V_0 \sin(30^\circ) \]
\[ V_{0x} = V_0 \cos \theta = V_0 \cos(30^\circ) \]

\[ V_f = V_0 + \Delta y \]
\[ \sqrt{V_{fy}^2 + V_{fx}^2} = V_f \quad \text{(magnitude)} \]
\[ \tan^{-1} \left( \frac{V_{fy}}{V_{fx}} \right) = \theta \quad \text{(angle)} \]

\[ V_{fy} = \]
\[ V_{fx} = \]
\[ V_{fx} = V_0 \cos \theta = V_0 \cos(30^\circ) \]