A massless rope is attached to a 1.0 kg cart that slides along a frictionless surface. The rope goes over an ideal pulley at h = 1.20 m and applies a constant tension F_t = 25.0 N to the cart. The cart slides from x_1 = 3.00 m to x_2 = 1.00 m. Consider the pulley to be at x = 0.

If the cart starts with an initial velocity of zero, what is its final velocity at x_2?