

2-3. The cart starts from rest with a constant acceleration, and the mass of the crate is normally distributed with $m \sim N(4, 0.5^2)$ kg. After 4 seconds, the speed of the cart reaches 6 m/h. Find the probability that the crate will slip. Assume the coefficient of static friction between the cart and the crate is $\mu_s = 0.2$.

Solution: $p = 0.066$

