

2-13. A pulley system with two crates are released from rest. Crate A has a mass $m_A = 20$ kg and crate B has a mass $m_B = 10$ kg. The coefficient of kinetic friction between crate A and the inclined surface follows a normal distribution $\mu_k \sim N(0.6, 0.06^2)$. When $\theta = 30^\circ$, find the distribution of the velocity of the two crates at $t = 2$ s.

Solution: $v \sim N(6.28, 0.68^2)$ m/s

