

2-5. The 20 kg box slides along a smooth fixed ramp from rest. If the height of the ramp follows a normal distribution $h \sim N(3, 0.1^2)$ m, determine the distribution of the distance s that the box travels on the ground when it stops. Assume the coefficient of kinetic friction between the ground surface and the box is $\mu_k = 0.5$.

Solution: $s \sim N(6, 0.2^2)$ m

