

4-14. A 100-kg block rests on the floor, and a force  $F = 900$  N is applied to it. The line of action of  $F$  is random,  $h$  is normally distributed with  $h \sim N(0.5, 0.05^2)$  m. If  $l = 1.2$  m, and the coefficient of kinetic friction between the block and the floor is  $\mu_k = 0.2$ , determine the probability that the block will tip over.

**Solution:**  $\Pr\{x > l/2\} = 0.32$ .

