

2-9. A ball is thrown with a horizontal velocity  $v_A = 4$  m/s at a height of  $h = 1.5$  m. The width of the bucket is  $w = 0.4$  m, and  $L = 6$  m. If the coefficient of restitution follows a normal distribution  $e \sim N(0.8, 0.08^2)$ , determine the likelihood that the ball falls into the bucket. Neglect the height of the bucket.

**Solution:**  $P = 0.21$ .

