2-24. A steel ball strikes a block with a vertical velocity $v \sim N(20,2^2)$ m/s. The masses of the ball and block are $m_A = 0.2$ kg and $m_B = 5$ kg, respectively. Assume the floor is smooth, $\theta = 30°$, and the coefficient of restitution is $e = 0.6$, determine the velocity of the block just after the collision.

Solution: $v_B \sim N(0.69, 0.07^2)$ m/s.