

2-33. The sphere rotates in a horizontal circular path while attached to point O by a cable. When $L = 2$ m, the tangential speed of the sphere is normally distributed $v_1 \sim N(1, 0.1^2)$ m/s. Then the cable is pulled in at the constant rate of $r = 0.2$ m/s. Determine the distribution of tangential speed of the sphere in 5 seconds.

Solution: $v_2 \sim N(2, 0.2^2)$ m/s.

