

3-2. A disk rotates at  $\omega_0 = 2 \text{ rad/s}$  and a constant angular acceleration of  $\alpha = 2 \text{ rad/s}^2$ . The distance between points  $A$  and  $O$  follows a normal distribution  $d \sim N(2, 0.2^2)$  ft. Determine the distributions of both normal and tangential acceleration components at point  $A$  after the disk undergoes 5 revolutions.

**Solutions:**  $a_t \sim N(4, 0.4^2) \text{ ft/s}^2$  and  $a_n \sim N(259.5, 25.9^2) \text{ ft/s}^2$

