1. The 10 lb block A and the 20 lb block B are initially at rest. If a force of \( P = 20 \) lb is applied to B as shown, determine the acceleration of each block. The coefficient of static friction between any two surfaces is \( \mu_s = 0.3 \) and the coefficient of kinetic friction is \( \mu_k = 0.2 \).
   (Ans. \( a_B = 19.3 \text{ ft/s}^2 \))

2. The ball weighs 5 lb and swings at the end of the 8 ft cord in a vertical plane. When the angle \( \theta = 30^\circ \), the speed of the ball is 4 ft/s. Find the tension in the cord and the acceleration of A at this instant.
   (Ans. \( T = 4.64 \text{ lb} \))