(30) 1. The uniform sphere shown is in equilibrium resting against two smooth surfaces. (The fact that the sphere is uniform implies that its weight acts through its center.) If the mass of the sphere is \( m \), what are the forces at \( A \) and \( B \)?

(30) 2. The bar is in equilibrium, and its weight is negligible. Find the angle, \( \alpha \), and the horizontal and vertical reaction components at \( A \).

(40) 3. The structure shown is in equilibrium and its weight is negligible. Because of the roller, the force at \( B \) is purely vertical. What are the reactions at \( A \) and \( B \)?