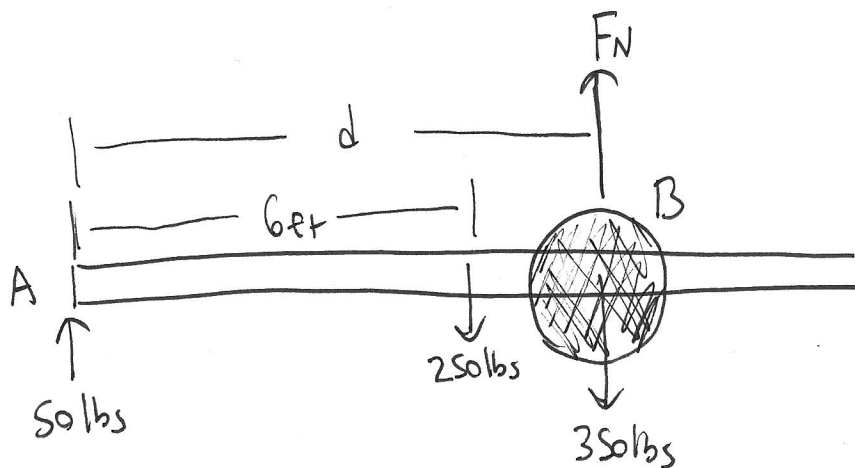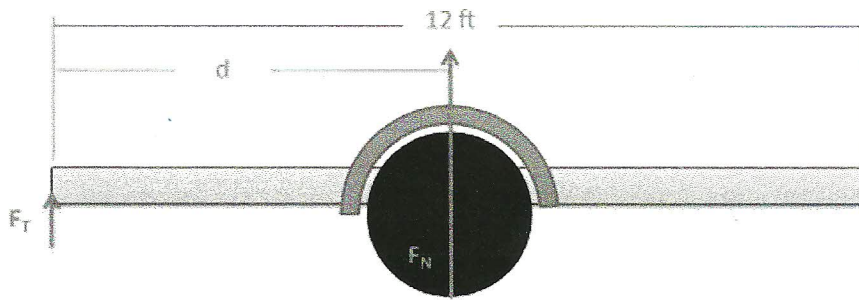The trailer shown below consists of a deck with a weight of 250 lbs on an axel with wheels with a weight of 350 lbs. Assume the weight forces act in the center of each component. If we wish the tongue weight (Ft) of the unloaded trailer to be 50 lbs, how far from the front must we place the axel(d)?

$$\sum M_B = -(50)(d) + (250)(d-6) = 0$$

$$-50d + 250d - 1500 = 0$$

$$200d = 1500$$

$$\boxed{d = 7.5 \text{ ft}}$$