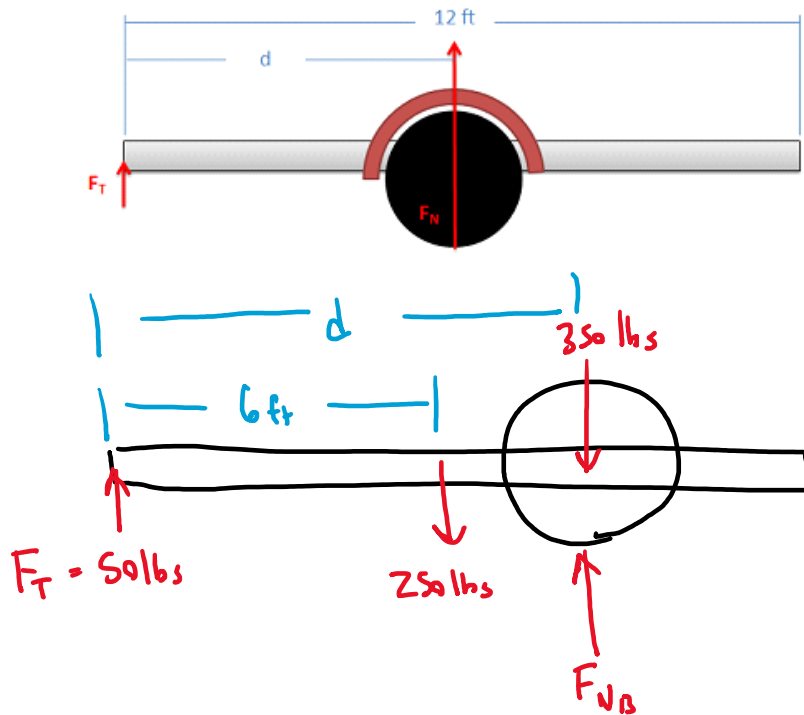


Question 6

The trailer shown below consists of a deck with a weight of 250 lbs on an axle 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 (F_T) of the unloaded trailer to be 50 lbs, how far from the front must we place the axle(d)?



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

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

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