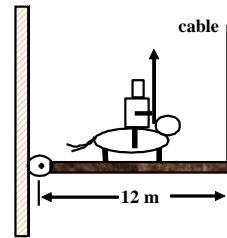


Sir Lancelot rides slowly out of the castle at Camelot and onto the 12 m long drawbridge that passes over the moat. Unbeknownst to him, his enemies have partially severed the vertical cable holding up the front end of the bridge so that it will break under a tension of 2500 N. The bridge has a mass of 200 kg and its center of gravity is at its center. Lancelot, his lance, his armor, and his horse together have a combined mass of 600 kg.



- A.** Draw complete free body diagram for the bridge
- B.** Find the force supplied by the bridge's pivot support and Lancelot's position with respect to the castle when the cable breaks.