

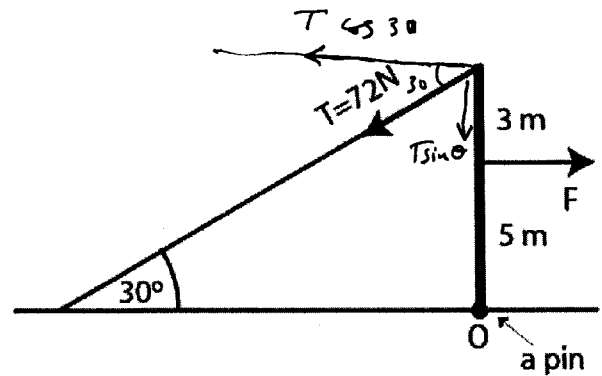
Phys101 – Quiz # 9 (Ch.12) – Sec # 38

Name:

Key

ID #

A uniform 30-kg beam is held in a vertical position by a pin at its lower end and a cable at its upper end. The tension in the cable is 72 N. Find the horizontal force F acting on this beam.



$$\vec{T}_{\text{net}, O} = 0$$

$$T \cos 30 (8) - F (5) = 0$$

$$F = \frac{T \cos 30 (8)}{5} = \frac{72 (\cos 30) (8)}{5}$$

$$= \boxed{99.8 \text{ N}}$$