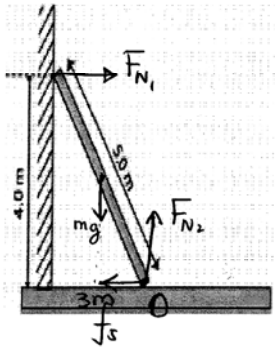
PHYS101.13
QUIZ#10- CHAPTER 12
DATE: 2/6/09

Name: Key Id#:

A 5.0 *m* long uniform ladder (with mass *m* = 12.0 *kg*) leans against a wall at a point 4.0 *m* above a horizontal floor as shown in the figure. Assuming the wall is frictionless (but the floor is not), determine the force of the wall on the ladder.



$$\tau_o = mg \times 1.5 - F_{N_1} \times 4 = 0$$

$$\boxed{F_{N_1} = 44.1\ N}$$

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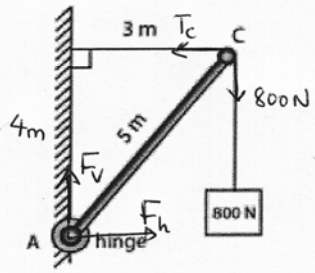
QUIZ#10- CHAPTER 12
DATE: 2/6/09

Name: Key Id#:

A 5.0-m weightless rod (AC), hinged to a wall at A, is used to support an 800-N block as shown in the figure. Calculate the tension in the 3-m long cable.



$$\tau_A = T_c \times 4 - 800 \times 3 = 0$$

$$T_c = \frac{2400}{4} = \boxed{600\,N}$$

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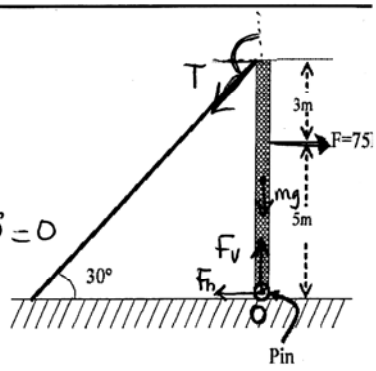
QUIZ#10- CHAPTER 12
DATE: 31/5/09

Name: Key Id#:

A uniform 50-kg beam is held in a vertical position by a pin at its lower end and a cable at its upper end. A horizontal force F = 75 N acts as shown in the figure. What is the tension in the cable?



$$\tau_o = T \times 8 \times \sin 120^\circ - 75 \times 5 \times \sin 90^\circ = 0$$

$$T = \frac{375}{6.93} = \boxed{54\ N}$$