Science Virtual Learning

MPI Physics Equilibrium 2

April 8, 2020

Lesson: MPI Equilibrium 2
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Objective: To be able to calculate the forces on an object in equilibrium, when the forces are at various angles

- Watch this video:

https://youtu.be/39_kEjXn6lk

Video: Equilibrium Lesson 2

A cane of mass 1.20 kg is 1.30 m long. The bottom rests on a table top, and is shoved against a wall. A wire is attached to the end of the cane, and is used to lift the cane 35.0 deg. The wire makes a 50.0 deg angle with the cane. Fine the tension in the string, the normal force of the table, and the force exerted by the wall on the cane.

Example from the Video

Homework

- A castle has a 10.0 m long drawbridge hinged at the bottom, and is lifted by a chain attached to the end. When the drawbridge is lifted to a 20.0° angle, the chain exerts a 14900 N force at an angle of 60.0° above the horizontal. What is the mass of the drawbridge?

- Try to solve the problem yourself, then watch the solution video here:
- https://youtu.be/RYuqIi5Ntw8
- That's it!