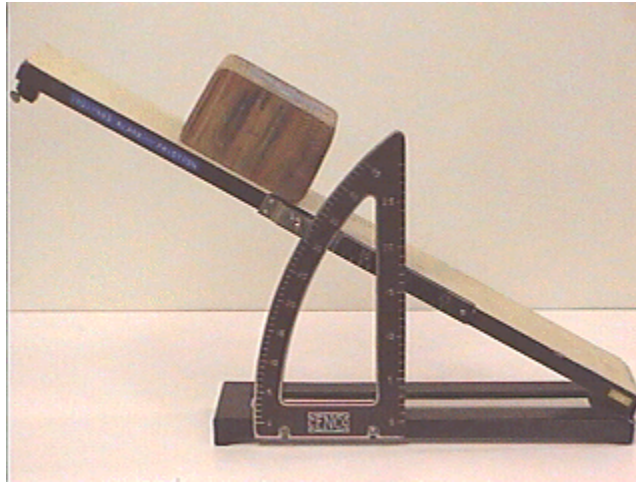


Answer #132

The answer is (d): the wooden slab will accelerate as it moves down the incline.



The answer hinges on whether or not the angle of the incline is sufficient to overcome kinetic friction. In this case the tilt of the incline is great enough to overcome kinetic friction but not static friction. Therefore once the motion has started it will continue with some acceleration and the velocity of the wooden chunk will become greater as it slides down the incline.

It is unlikely to move at a constant slow speed: either it will accelerate or it will stop, depending on the value of the frictional force. It would be strictly fortuitous if an angle could be selected such that the component of gravitational force *exactly* balanced the frictional force.

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