

Exercise

Vector in Real Life II Part I

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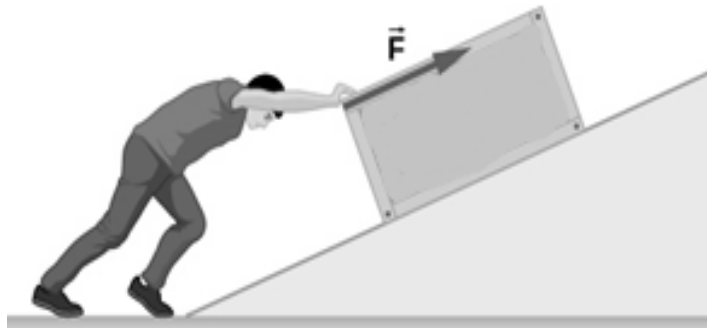
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<http://ocw.ump.edu.my/course/view.php?id=464>

5.2 Work by constant force

- Rashid weigh 85 kg pushes a wooden box 4 m up along an inclined plane. The plane makes an angle of 20° with the horizontal as in diagram. He exerts a force of 500 N on the wooden box parallel to the inclined plane at a constant speed. Calculate the work done by Rashid.



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5.2 Work by constant force

A toboggan carries 3 kids with total mass of 50 kg is pulled 20 m across the snow at uniform velocity. The applied force is directed above the horizontal. Calculate

- (a) the work of the applied force
- (b) the work of friction force
- (c) the total work.



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by Mazni St. Yusof - 1.79 kJ; c. 0

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5.2 Work by constant force

Anis bring cakes for birthday celebration to surprise her best friend. How much work is done against the gravitational force on a 5.0 kg box of cakes when it is carried from the ground floor to the roof of the Kuala Lumpur Tower, a vertical climb of 380 m?



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18.6 kJ

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5.3 Work done by a varying force

Hang a spring is a common techniques to measure the spring constant. First, the spring need to be hang vertically and then an object is attached to the spring end. As a result, the spring will stretched from its equilibrium position. If a spring is stretched 2 cm by an attached object with a mass of 0.55 kg.

- a) Find the force constant of a spring
- b) Calculate the work done by the spring as it stretches 2 cm.



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