وزارة التربية والتعليم

الادارة المركزية لتطوير المناهج

إدارة تنمية مادة الرياضيات

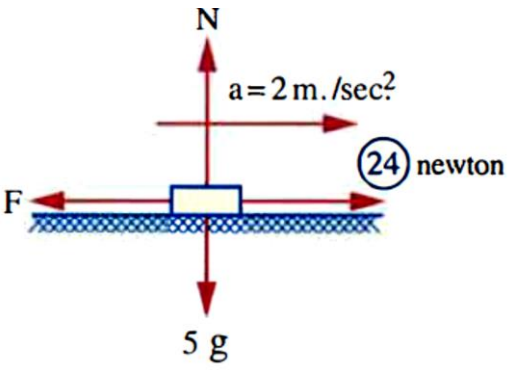
أداءات وتقييمات لمنهج الرياضيات

للصف الثانى الثانوى [علمى]

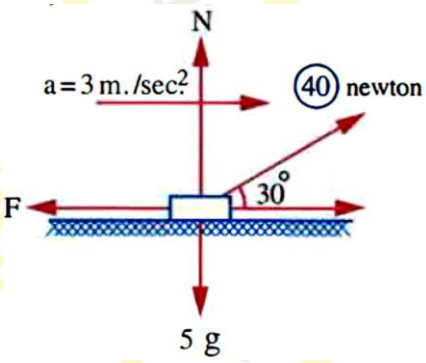
للعام الدراسي 2024 / 2025

Classroom Performance Week: (13) Semester (2) Mathematics Applications
Grade: Second Secondary (Science)

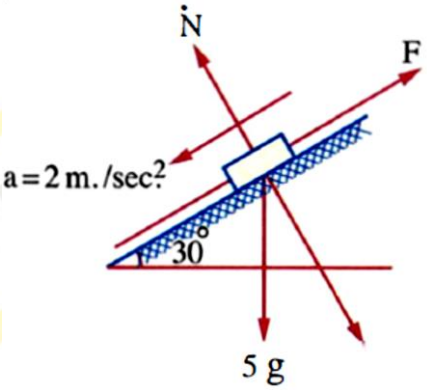
(1) **In the opposite figure:**
A body with a mass of 5 kg is placed on a rough horizontal plane.
The kinetic friction force is F .
Find the coefficient of kinetic friction (μ_k) between the body and the plane.



(2) **In the opposite figure:**
A body with a mass of 5 kg is placed on a rough horizontal plane.
The kinetic friction force is F .
Find the coefficient of kinetic friction (μ_k) between the body and the plane.



(3) **In the opposite figure:**
A body with a mass of 5 kg is placed on a rough inclined plane.
The kinetic friction force is F .
Find the coefficient of kinetic friction (μ_k) between the body and the plane.



(4) **A body with a mass of 10 kg rests on a rough horizontal plane with a kinetic friction coefficient $\frac{1}{2}$. The body is then pulled by a horizontal force, causing the body to move from rest with an acceleration of 200 cm/s². Find the magnitude of the pulling force.**

(5) Place A body with a mass of 4 kg rests on a rough horizontal plane. Then, a horizontal force pulls the body, causing it to move a distance of 400 cm in two seconds, starting from rest. If the coefficient of kinetic friction between the body and the plane is $\frac{1}{4}$, find the magnitude of the pulling force, measured in Newton.

(6) A body is thrown at a speed of 14.7 m/s upwards in the direction of the line of greatest slope on a rough inclined plane that forms an angle of 30° with the horizontal. If it is known that the body reaches rest after 1.5 seconds, find the coefficient of kinetic friction between the body and the plane.

(7) A rough inclined plane is 2.5 meters long and 1.5 meters high. Find the velocity with which an object is thrown from the bottom point of the plane in the direction of the line of the greatest slope upwards until it barely reaches the highest point of the plane, knowing that the coefficient of kinetic friction between the body and the plane is $\frac{1}{2}$.

(8) A rough inclined plane is 4.5 meters long and 2.7 meters high. A body is placed at the top of the plane and begins its movement from rest. If the coefficient of kinetic friction is $\frac{1}{2}$ Between a Body and a Plane Calculate: The velocity with which the body reaches the base of the plane.

(9) A rough inclined plane is 4.5 meters long and 2.7 meters high. A body is placed at the top of the plane and begins its motion from rest. If the coefficient of kinetic friction between the body and the plane is $\frac{1}{2}$, calculate: The time required for the body to reach the base of the plane .

(10) A body descends from rest on the line of greatest inclination of a rough plane inclined to the horizontal at an angle whose sine is $\frac{3}{5}$. If the body's velocity becomes 9.8 m/s after 2.5 seconds from the start of motion, find: The coefficient of kinetic friction between the body and the plane.