وزارة التربية والتعليم

الادارة المركزية لتطوير المناهج

إدارة تنمية مادة الرياضيات

أداءات وتقييمات لمنهج الرياضيات

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Weekly Assessment Week: (14) Semester (2) Mathematics Applications
Grade: Second Secondary (Science)

First Group

(1) A rough inclined plane, 15 meters long and 9 meters high, was placed at rest on it. The body slid to the bottom of the plane, and the acceleration of the body was 1.96 m/s². Find the coefficient of kinetic friction (μ_k) between the body and the plane.

(2) A body with a mass of 5 kg was placed on a rough horizontal plane. A horizontal force of 24 N acted on it, causing it to move along the horizontal plane with a uniform acceleration of 2 m/s². Find the coefficient of kinetic friction between the body and the plane.

(3) A rough inclined plane, 25 meters long and 15 meters high, was placed at the top of the plane. It began its movement from rest. If the coefficient of kinetic friction between the body and the plane is $\frac{1}{4}$, calculate the time required for the body to reach the base of the plane.

(4) A body with a mass of m kg was placed at the top of an inclined plane. A smooth plane 150 meters long and 120 meters high is let to slide on the plane. Find the acceleration of the body on the plane.

(5) A body is thrown up a smooth inclined plane inclined at an angle of Sine 0.1 to the horizontal in the direction of the plane's greatest slope, at a speed of 4.9 m/s. Find the distance the body moves on the plane until it comes to rest.

Group Two

(1) A rough inclined plane 15 meters long and 12 meters high. A body is placed at rest on it, and the body slides down the plane. The acceleration of the body is 4.9 m/s². Find the coefficient of kinetic friction (μ_k) between the body and the plane.

(2) A body with a mass of 6 kg is placed on a rough horizontal plane. A horizontal force of 41.4 N acts on it, causing it to move on the horizontal plane with a uniform acceleration of 2 m/s². Find the coefficient of kinetic friction between the body and the plane.

(3) A rough inclined plane A body is 5 meters long and 3 meters high. A body is placed at the top of a plane and begins moving from rest. If the coefficient of kinetic friction between the body and the plane is $\frac{1}{8}$, calculate the time required for the body to reach the base of the plane.

(4) A body with a mass of m kg is placed at the top of a smooth inclined plane 250 meters long and 150 meters high. The body is allowed to slide on the plane. Find the magnitude of the body's acceleration on the plane.

(5) A body is thrown to the top of a smooth inclined plane inclined at an angle of sine 0.1 to the horizontal in the direction of the plane's greatest slope, at a speed of 9.8 m/s. Find the distance the body moves on the plane until it comes to instantaneous rest.

Group Three

(1) A rough inclined plane 25 meters long and 15 meters high. A body is placed at rest on it. The body slides to the bottom of the plane. The magnitude of the body's acceleration is 196 cm/s². Find the coefficient of kinetic friction (μ_k) between the body and the plane.

(2) A body with a mass of 10 kg is placed on a rough horizontal plane. A horizontal force of 59 N acts on it, causing it to move along the horizontal plane with a uniform acceleration of 1 m/s². Find the coefficient of kinetic friction between the object and the plane.

(3) A rough inclined plane is 10 m long and 6 m high. An object is placed at the top of the plane and begins its motion from rest. If the coefficient of kinetic friction between the object and the plane is $\frac{1}{2}$, calculate the time required for the object to reach the base of the plane.

(4) An object with a mass of m kg is placed at the top of a smooth inclined plane 150 m long and 90 m high. The object is let to slide on the plane. Find the magnitude of the object's acceleration on the plane.

(5) An object is thrown to the top of a smooth inclined plane inclined at an angle of sine 0.1 to the horizontal, in the direction of the plane's line of greatest slope, at a speed of 3.92 m/s. Find the distance the object moves on the plane until it comes to instantaneous rest: .