

Inclined plane (rough)

Questions

1. How does the normal reaction on the body change as the angle of inclination is increased?
2. How does the downward component of gravitational force (parallel to the plane) change with increase in angle of inclination?
3. As the angle of inclination is increased what happens to the total force on the block due to the inclined plane?
4. As the mass of the block is increased what happens to the angle of repose?
5. As the coefficient of friction is increased what happens to the angle of repose?
6. For a fixed value of angle of inclination (greater than angle of repose) what happens to acceleration of the block with increase in mass of the body?

Note :

While simulations help to provide valuable insights and visualizations, a rigorous mathematical solution should always be considered as a benchmark, demonstrating not just familiarity with the concept, but a deep understanding of the underlying principles.

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