

7E Additional Forces on Slopes

1. A particle is held at rest on a rough plane inclined at an angle of θ to the horizontal, where $\tan\theta$ is 0.75. If the coefficient of friction between the particle and the plane is 0.5, find the acceleration of the particle.

2. A mass of 4kg is pushed up a plane by a horizontal force of magnitude 25N. The plane is inclined to the horizontal at 10° and the particle accelerates at 2.5ms^{-2} . Calculate the coefficient of friction between the box and the plane.