

PROBLEM 1

1. A particle of mass m is projected from the origin O of a Cartesian coordinate system with an initial velocity \mathbf{u} in the xy -plane. The particle moves in a straight line and strikes a vertical wall at point P at a distance x from the y -axis. The wall is perpendicular to the x -axis. The particle is reflected back into the xy -plane with a velocity \mathbf{v} . The angle of incidence is θ and the angle of reflection is ϕ . The wall is at a distance x from the y -axis. The particle is reflected back into the xy -plane with a velocity \mathbf{v} . The angle of incidence is θ and the angle of reflection is ϕ . The wall is at a distance x from the y -axis.



2. A particle of mass m is projected from the origin O of a Cartesian coordinate system with an initial velocity \mathbf{u} in the xy -plane. The particle moves in a straight line and strikes a vertical wall at point P at a distance x from the y -axis. The wall is perpendicular to the x -axis. The particle is reflected back into the xy -plane with a velocity \mathbf{v} . The angle of incidence is θ and the angle of reflection is ϕ . The wall is at a distance x from the y -axis. The particle is reflected back into the xy -plane with a velocity \mathbf{v} . The angle of incidence is θ and the angle of reflection is ϕ . The wall is at a distance x from the y -axis.

