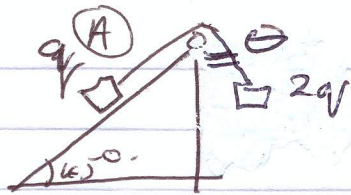


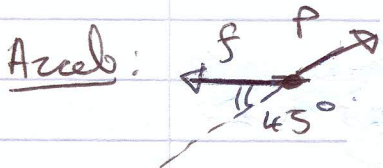
H 197403



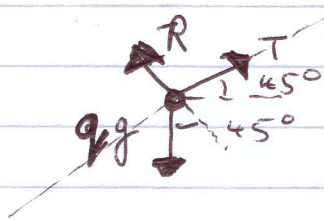
System moves to Left.

PARTICLE (A)

Mass  $q$



Forces



NII: ⊥ to plane.

$$qg \cos 45^\circ - R = q[f \sin 45^\circ]$$

$$\Rightarrow \frac{qg}{\sqrt{2}} - R = q \left[ \frac{f}{\sqrt{2}} \right]$$

(1)

∥ to plane

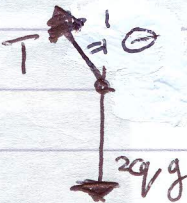
$$T - qg \sin 45^\circ = q[p - f \cos 45^\circ]$$

$$T - \frac{qg}{\sqrt{2}} = q \left[ p - \frac{f}{\sqrt{2}} \right]$$

(2)

PARTICLE (B)

Mass  $2q$



↔

$$T \sin \theta = 2q[f - p \sin \theta]$$

(3)

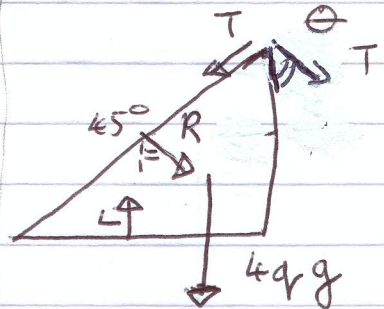
↑↓

$$2qg - T \cos \theta = p \cos \theta$$

(4)

WEDGE

Mass  $4q$



↔

$$-R \sin 45^\circ + T \cos 45^\circ - T \sin \theta = 4qf$$

$$\Rightarrow \frac{L - T \sin \theta - R}{\sqrt{2}} = 4qf$$

(5)

↑↓

$$R \cos 45^\circ - 4qg + L - T \sin \theta - T \cos \theta = 0$$

$$L - \frac{R}{\sqrt{2}} - 4qg - \frac{T}{\sqrt{2}} - T \cos \theta = 0$$

(6)

(1), (2), (3), (4), (5) are the equations required!

Imagine trying to solve these!

Imagine if you had assumed the wedge must move to the right!