

- 1 A sphere is projected with an initial velocity u from the bottom of a smooth ramp which is inclined at an angle θ to the horizontal as shown in Fig. 1.1.

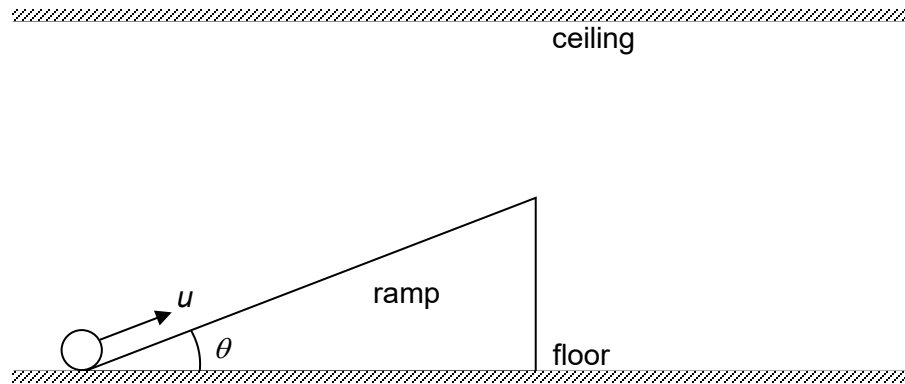


Fig. 1.1 (not to scale)

- (a) Define *acceleration*.

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.... [1]

- (b) When $u = 9.0 \text{ m s}^{-1}$ and $\theta = 26^\circ$, the sphere leaves the ramp after 0.70 s.

- (i) Show that the speed of the sphere as it leaves the ramp is 6.0 m s^{-1} .

