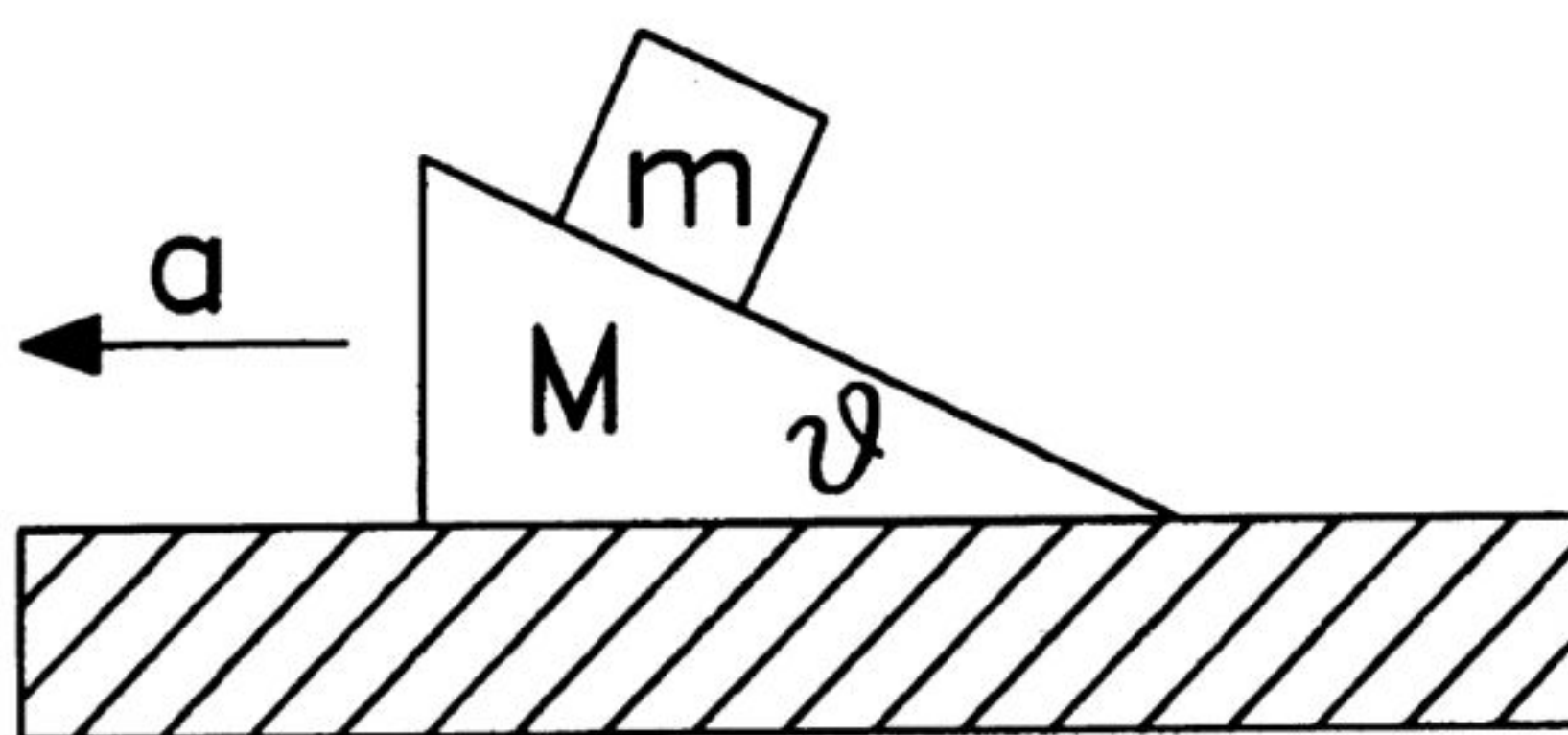


Mechanics

2. A small block of mass m is placed on a frictionless inclined plane of mass M which in turn is resting on a frictionless horizontal surface. The inclination angle is θ . Find the horizontal acceleration of the inclined plane due to gravitational force acting on the system. Assume that no outside forces act on the system.



ANSWER:

$$a = \frac{m \tan \theta}{M + (m + M) \tan^2 \theta} g$$