Answer on Question # 46927, Physics, Mechanics | Kinematics | Dynamics

Task:

The spring balance which will give the most accurate reading on using it in the exp. To establish relationship between the weight of rectangular wooden block lying on a horizontal table and the force required to just move it should have the least count

B. 5 g weight

D. 0.5 g weight

A. 1g weight

C.2g weight

Answer:

When body is at rest,

Normal reaction= weight of the body

Applied force= force of friction

Suppose a body of mass 'm' is moving by the application of a force 'F', then the produced acceleration 'a' will be directly proportional to the applied force.

when force (F) increased to a certain value such that the body starts moving in the direction of applied force, then Applied force > force of friction.

relationship between the weight of rectangular wooden block lying on a horizontal table and the force required to just move : $F/\mu > mg$, μ is coefficient of friction of block with the surface($\mu=0.25$)

so answer is D. 0.5 g weight.