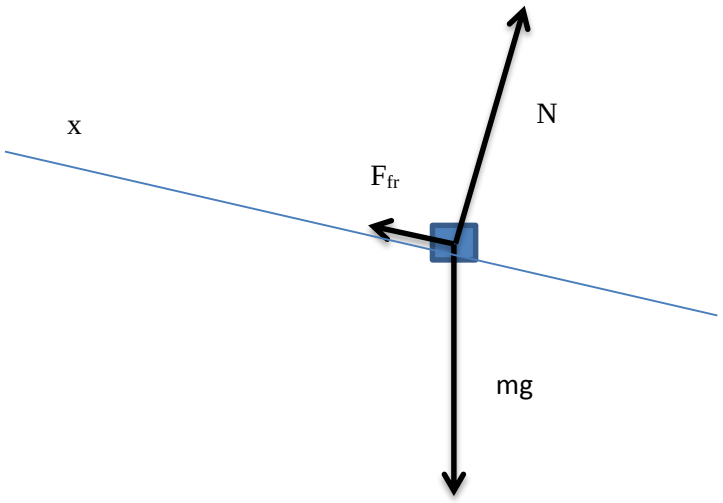
Answer on Question #47849, Physics, Mechanics | Kinematics | Dynamics

Question:

A block of mass 2 kg rests on a rough inclined plane making an angle 30 degree with horizontal, the coefficient of static friction between the block and the plane is 0.7.the frictional force on block is

Answer:



Newton's first law of motion:

$$x: \qquad mg \sin\theta = F_{fr}$$

Therefore friction force equals

$$F_{fr} = mg \sin\theta = 2\ kg\ 9.8\frac{m}{s^2} \sin 30° = 9.8\ N$$

Answer: $9.8\ N$