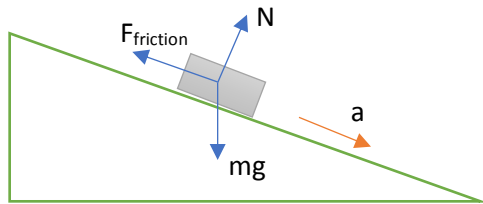**Answer on Question #72118, Physics / Mechanics | Relativity**

Question:

An ice tube is kept on an inclined plane of angle 30degree . Coefficient of kinetic friction between block and inclined plane is 1 upon under root 3 . What is the acceleration of block?

Solution:

According to 2nd Newton's law: $m\vec{a} = m\vec{g} + \overrightarrow{F_{friction}} + \vec{N}$

In projections:

$ma = mg * \sin(30°) - F_{friction}$

$0 = N - mgcos(30°)$

Also we use that: $F_{friction} = \mu N$ ($\mu = \frac{1}{\sqrt{3}}$)

So, $a = gsin(30°) - \mu gcos(30°) = 9.8\left(0.5 - \frac{\sqrt{3}}{2}\frac{1}{\sqrt{3}}\right) = 0$

So, the acceleration of the ice tube is zero

Answer: 0