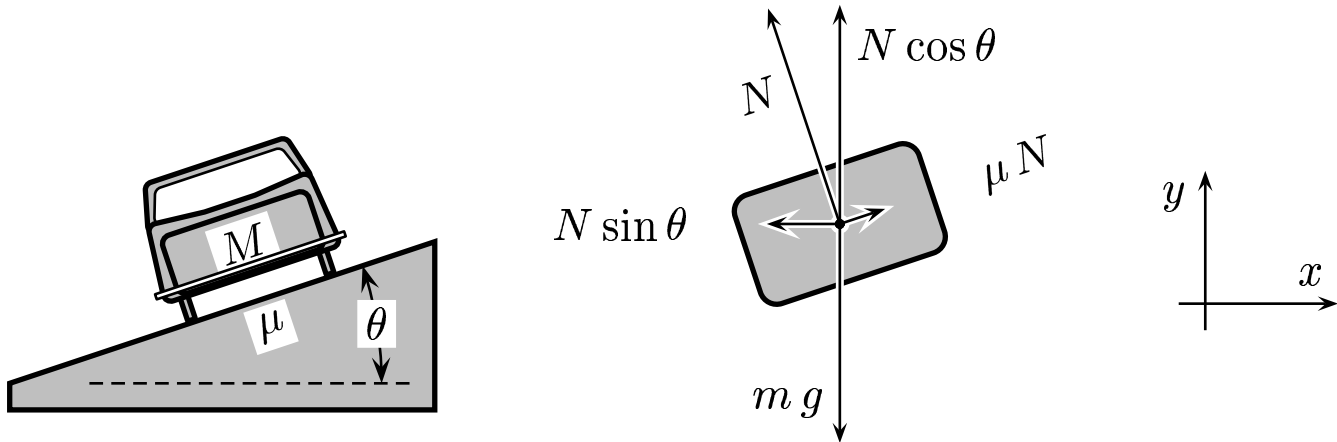


Consider the case where the speed of a car is less than the optimal speed. There are three forces acting on the car: the uphill friction $f = \mu N$, the normal force by the road N , and the weight $m g$. The equation of motion is given by the vector equation $\vec{N} + m \vec{g} + \vec{f} = \vec{F}_{cp}$.



Which one of the vertical equations below is correct?

- A) $N_y + |f_y| = m g .$
- B) $N_y - |f_y| = m g .$

Explanation: Adding the component to the diagram above, one finds for the y -component equation is $N_y + |f_y| = m g .$

Answer **A**.