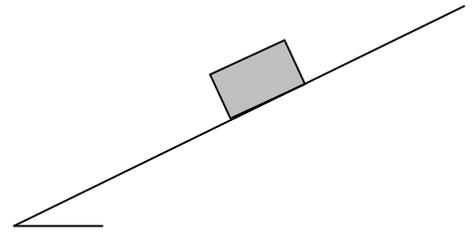


Complete the diagram, labeling vectors and angles:



1. A cart weighing 420 N rests on a 23° incline. Calculate the component of its weight that presses the cart to the hill.
2. Calculate the parallel force component of the weight (6.1×10^5 N) of a car resting on a hill which is 35° above horizontal.
3. A crate having a mass of 114 kg rests on a ramp with an angle of incline of 15.2° . What force does the crate exert perpendicular to the ramp?
4. What is the weight of a box that exerts a parallel force component of 330 N and a perpendicular component of 390 N?

What is the angle of incline of the hill?