

Module 04 - Lesson 1

Forces and Motion

Question 1: Two siblings pull on a toy in opposite directions. The boy pulls with a force of 10 N while the girl pulls with a force of 12 N. Qualitatively, describe what happens to the toy based on the forces it experiences.

Question 2: A car is parked on a steep hill. Are there any forces acting on the car? Is there a net force acting on the car? Explain your answers.

Problem: Three friends are pulling on a box with the top view shown in Fig. 1. Find the magnitude and the direction of the net force acting on the box if $F_1 = 2$ N, $F_2 = 4$ N, and $F_3 = 3$ N.

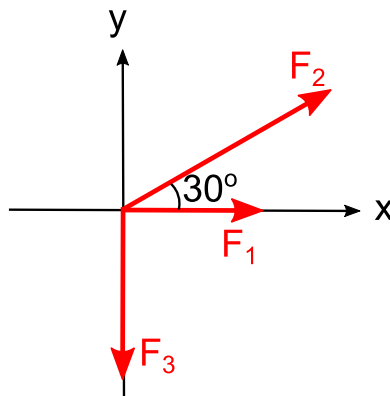


FIG. 1: Pulling on a box