

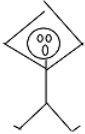
I-127

Tired of walking up the stairs, an engineering student designs an ingenious device for reaching his third floor dorm room. A 100 kg block is attached to a rope that passes over a pulley. The student holds the other end of the rope. When the block is released, the student is pulled up to his dorm room, 8.0 m off the ground. He is traveling at 2.2 m/s when he reaches his room.

Free-Body Diagrams

Mathematical Analysis

student



block



Event 1:

Event 2:

This page titled [I-127](#) is shared under a [CC BY-NC-SA 4.0](#) license and was authored, remixed, and/or curated by [Paul D'Alessandris](#) via [source content](#) that was edited to the style and standards of the LibreTexts platform.