

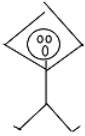
## I-128

Tired of walking down the stairs, a 75 kg engineering student designs an ingenious device for reaching the ground from his third floor dorm room. A 60 kg block at rest on the ground is attached to a rope that passes over a pulley. The student grabs the other end of the rope and steps out of his window. He falls for 5.5 s before reaching the ground.

### Free-Body Diagrams

#### Mathematical Analysis

student



block



Event 1:

Event 2:

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