

PH 221 Week 3

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R3-1: Apparent Weight in an Elevator

Zach, whose mass is 80 kg, is on an elevator descending at 12 m/s. The elevator takes 3.0 s to brake to a stop at the ground floor.

- (a) Draw a free-body diagram for Zach. Which force is Zach's apparent weight?
- (b) What is Zach's apparent weight before the elevator starts braking?
- (c) What is Zach's apparent weight while the elevator is braking?

R3-2: Steady Block on a Sliding Ramp

A block of mass m sits upon a frictionless ramp (inclined at angle θ) that is being pushed to the right. What must the acceleration of the ramp be to prevent the block from sliding down the surface?

