Physics 4A
Fall 2025

Name _____

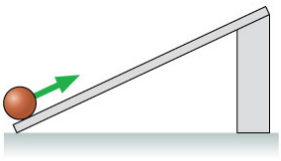
Lab: 8:00 am 11:20 am 2:40 pm (circle one)

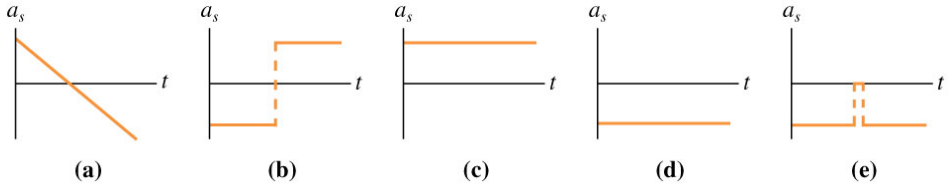
Quiz #2: Kinematics in One Dimension

Problem 1 (1.5 points)
A rock is thrown straight upwards in the absence of air resistance. A brief moment later, a second rock is thrown straight upwards from the exact same height. Is it possible for both rocks to reach the same maximum height at the same time?

a) yes
b) no

Problem 2 (1.5 points)
A ball rolls up the ramp and then back down. Which is the correct acceleration graph (assuming we define up the ramp as positive)?





Problem 2 (3 points)
A ballplayer catches a ball at the same height it was thrown at 4.50 s after throwing it vertically upward in the absence of air resistance. What maximum height did the ball reach?

Problem 4 (4 points)
Super Joe, using his incredible Physics knowledge, starts from rest and accelerates at a spectacular rate of 11.25 m/s^2 for a distance of 475 m. He then uses his awesome powers to slow down at the rate of –7.50 m/s^2 until he comes to rest. **(a)** What is the total distance traveled by Super Joe? **(b)** How long was Super Joe in motion, from start to stop?