

USEFUL RESOURCES

The updates, homework assignments, and useful links for APC can be found on SchoolNova's web page:
https://schoolnova.org/classinfo?class_id=2252&sem_id=74

The practical information about the club and contacts can be found on the same web page.

TODAY'S MEETING

Today we started solving the set of problems on kinematics of acceleration. The remaining problems are reassigned.

This homework also has several problems on projectile motion.

REASSIGNED HOMEWORK

1. A bus moving on a straight road at initial speed 15 m/s is approaching a stop. It spends 20 seconds on traveling the last 350 meters before stopping. Prove that acceleration of the bus has changed direction during these 20 seconds.
2. A charged particle is emitted and moves distance L away from its' source with constant velocity. After that, it reaches a region with electric field providing the particle with constant deceleration a ; eventually the particle stops. What is the initial velocity of the particle such that the time of its motion from emission to stopping is minimal?
3. Two balls are launched vertically upwards from the same point with the same initial velocity v , with a relative delay Δt . How much times passes after the second ball launch until the balls collide?
4. You are standing on a platform next to a train scheduled to depart at 12:00:00. It is precisely 12:00:00 by your watch and the second to last carriage already starts passing you, going past you completely in 10 s. Then the last carriage goes past you in 8 s. The train has departed on time and it is moving with a constant acceleration. How much does your watch fall behind?

NEW HOMEWORK

1. Solve problem 11 of the 2021 F=ma exam that you can find by following the link:
https://www.aapt.org/Common2022/upload/2021_Fma_exam.pdf
2. A ball is launched on a smooth plane inclined at 45° to the ground. Initial velocity of the ball is v , it makes a 45° angle with the horizontal edge of the plane. What distance along the horizontal will the ball travel before hitting the ground?
3. A rock is thrown with initial speed v in some direction. What will be its speed at a point with elevation h with respect to the initial point?



FOR THE NEXT MEETING

IMPORTANT: The next club's meeting is at 2:40pm, in-person, on Sunday, **October 19**.