

Name:

Kinematics exam

Review # 3

Policy: Closed book || Calculator & Reference Table allowed

Exam: Wednesday, Oct 26, 2016

Note: There will be 25 questions: 20 multiple choice questions ($20 \times 3 = 60$) and 5 Constructed response question ($5 \times 8 = 40$). There will be one extra credit question ($10 \times 1 = 10$ points). For more information about the exam and extra credit problem, Visit "www.bari-science-lab.com" and click on **Brooklyn Tech**.

1. The components of a 15-meters-per-second velocity at an angle of 60° above the horizontal are?
2. What is the time required for an object starting from rest to fall freely 500. meters near Earth's surface?
3. A truck, initially traveling at a speed of 22 meters per second, increases speed at a constant rate of 2.4 meters per second² for 3.2 seconds. What is the total distance traveled by the truck during this 3.2-second time interval?
4. A ball is thrown with an initial speed of 10. meters per second. At what angle above the horizontal should the ball be thrown to reach the greatest height?
5. An airplane accelerates down a runway at 3.20 m/s^2 for 32.8 s until is finally lifts off the ground. Determine the distance traveled before takeoff.
6. A car starts from rest and accelerates uniformly over a time of 5.21 seconds for a distance of 110 m. Determine the acceleration of the car.

7. Upton Chuck is riding the Giant Drop at Great America. If Upton free falls for 2.60 seconds, what will be his final velocity and how far will he fall?

8. An airplane accelerates down a runway at 3.20 m/s^2 for 32.8 s until it finally lifts off the ground. Determine the distance traveled before takeoff.

9. A car starts from rest and accelerates uniformly over a time of 5.21 seconds for a distance of 110 m. Determine the acceleration of the car.

10. A race car accelerates uniformly from 18.5 m/s to 46.1 m/s in 2.47 seconds. Determine the acceleration of the car and the distance traveled.

Important Information

Items	Date
101 Question Packet	Monday Oct 24
HW on Aristotle and Galileo	Monday Oct 24
Simulation (Unit 1 Major HW)	Friday, Oct 28
Exam 1	Wednesday Oct 26

Instructor policy: Please bring your own calculator (You must not use your cellphone's calculator).