

Physics 10154 - Exam #1D

Answer the following two questions. Be sure to clearly indicate your answer with a circle or box. Show all work. If I cannot see how you arrived at an answer, I will deduct points!

1. A person takes a trip, driving with a constant speed of 55 miles/hour the whole time except for a 15 minute rest stop. The overall average speed for the trip works out to 47 miles/hour. How far does the person travel during the entire trip?

2. A model rocket is launched with an initial speed of zero and an upward acceleration of 14 m/s^2 . It rises to a height of 1200 feet before the engines cut out, and then it continues upward in free-fall motion before reaching a maximum height and then falling to the ground.

To what maximum height does the rocket ascend (in meters) in how long (in seconds) does it take to reach that height?