

Name: _____

ID: A



7.

Suppose dinosaurs shot a laser beam at a highly reflective asteroid headed straight for them. The laser beam reflects back to them and the whole trip for the laser was measured to be 3.54 s. If the speed of light is 3×10^8 m/s, what was the current distance between the dinosaurs and the asteroid?

- a. 5.31×10^8 m
- b. 8.47×10^7 m
- c. 1.06×10^9 m
- d. 4.19×10^8 m

8. Suppose you take a trip to the Mountains. Google maps says the destination is 200 km away. If it takes you 5 hours to get there, what would your average speed be?

- a. 15.56 m/s
- b. 5.56 m/s
- c. 40 m/s
- d. 11.11 m/s



9.

A flying squirrel sees a pecan and flies down at a constant velocity of 16.8 m/s. If the squirrel dives straight down from a height of 134 m, how much air time does the squirrel get flying down to his snack?

- a. 2.39 s
- b. 11.17 s
- c. 10.37 s
- d. 7.98 s

10. A base jumper goes to the top of a skyscraper and jumps with a brand new parachute. The top speed they have been known to reach as they are falling is 89.8 m/s, which is roughly 200.88 miles per hour. If the building is 140 m high, how much time do they have to pull their parachute before they hit the ground, assuming they fall with a constant speed?

- a. 2.03 s
- b. 1.56 s
- c. 0.78 s
- d. 1.87 s