Name: _____ Class: _____ Date: _____ ID: A

1-D Velocity/Speed

Multiple Choice

Identify the choice that best completes the statement or answers the question.

____ 1. In the movie Poltergeist a 68 kg boy is watching the rain hit his window. His dad walks in and tells him that if he sees a flash of lightning, to count the seconds until he hears the thunder. They begin to count and when they get to 8.7 seconds they hear the thunder. Assuming the speed of sound in air at this location is 342.5 m/s, how far away was the lighting bolt in meters?

a. 2383.8 meters
c. 4171.65 meters
b. 2979.75 meters
d. 5065.58 meters

____ 2. Some American Woodchuck's have been clocked with an average speed of about 1.7×10^{-1} m/s. Knowing this, how many seconds would it take a American Woodchuck to go 8 meters?

a. 47.06 seconds
c. 84.71 seconds
b. 28.24 seconds
d. 42.35 seconds

____ 3. 

On an expedition, Zoey sees a Loris moving across the path she is on. Loris's aren't that fast and have an average speed of about 1.3 x 10^-2 m/s. With this information, how many seconds would it take a Loris to go 2 meters?

a. 200 seconds
c. 153.85 seconds
b. 30.77 seconds
d. 138.46 seconds

____ 4. Echoes occur when sound reflects off a hard surface and returns to their point of origin. Jacob screams his name down to the bottom of a really deep well and hears his echo 7.7 seconds later. Knowing the speed of sound at this location is a constant 340.4 m/s, how deep is the well?

a. 88.42 meters
c. 44.21 meters
b. 1310.54 meters
d. 2621.08 meters

____ 5. Renton (161 kg) is out on summer vacation and decides to hit the ocean with his new Mako fishing boat. If he drove his boat 1,056 meters in 8.8 s, what was his boats velocity?

a. 120 m/s
c. 48.00 m/s
b. 168.00 m/s
d. 9292.80 m/s

____ 6. A new pitch speed sensor was installed at the local school. During baseball practice, a 75 kg pitcher decides to see how fast she can throw a strike. If she throws the baseball 153 meters and its speed was measured by the new sensor to be 126.5 m/s, how long was the baseball in the in the air?

a. 1.21 s
c. 19354.5 s
b. 0.83 s
d. 1.57 s

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 3x10^8 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 flys 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