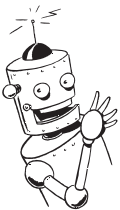


Chapter 1 Linear Motion

Speed, Velocity, Acceleration

Pre-Test - Post-Test

1. What two measurements are necessary for calculating average speed?
 - a. acceleration and time
 - b. distance and time
 - c. velocity and time
 - d. velocity and distance
2. How is velocity different than speed?
 - a. speed and velocity are the same
 - b. velocity has direction
 - c. velocity uses displacement
 - d. b and c are correct
3. When you look at the speedometer in a moving car, you can see the car's _____.
 - a. instantaneous speed.
 - b. average acceleration.
 - c. average speed.
 - d. average distance traveled.
 - e. instantaneous acceleration.
4. Acceleration is defined as the CHANGE in _____.
 - A) time it takes to move from one place to another place.
 - B) distance divided by the time interval.
 - C) time it takes to move from one speed to another speed.
 - D) velocity of an object.
 - E) velocity divided by the time interval.
5. Suppose you are in a car that is going around a curve. The speedometer reads a constant 30 miles per hour. Which of the following is NOT true?
 - a. You and the car are accelerating.
 - b. Your velocity is constant.
 - c. Your speed is constant.
 - d. Your acceleration is constant.
6. An object travels 8 meters in the first second of travel, 8 meters again during the second second of travel, and 8 meters again during the third second. Its acceleration is _____.
 - a. 8 m/s/s
 - b. 32 m/s/s
 - c. 0 m/s/s
 - d. 16 m/s/s
 - e. none of the above
7. Ten seconds after starting from rest, a car is moving at 40 m/s. What is the car's average acceleration?
 - a. 10 m/s/s
 - b. 40 m/s/s
 - c. 25 m/s/s
 - d. 0.25 m/s/s
 - e. 4.0 m/s/s



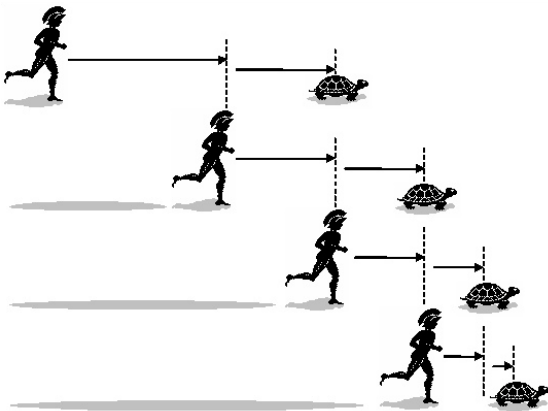
Chapter 1 Linear Motion

Speed, Velocity, Acceleration

1.1 The History of Motion

1. How can you tell if an object is moving?
2. According to the Greek philosopher Aristotle, how could motion be classified?
3. Explain natural motion according to Aristotle.
4. Explain violent motion according to Aristotle.

5. Explain Zeno's paradox.



6. What is wrong with Zeno's paradox?

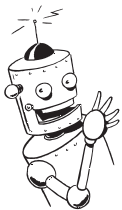
7. In Aristotle's view of motion, why did object stop moving?

8. What variable(s) was missing in Aristotle's view of motion?
9. How did Galileo define motion?
10. In Galileo's view of motion, why did object stop moving?
11. Why did it take so long for the concept of time to be used in the description of motion?

1.2 Speed

12. Define speed.
13. Lets suppose you travel 60 miles in one hour, what is your speed?
14. How is the slash symbol read in mi/h?
15. If you traveled 80 kilometers in 2 hours, what was your average speed?
16. What are SI units for speed?
17. If a plane flies at an average speed of 60 km/h, how far will it travel in 2 hours?
18. What is the difference between instantaneous and average speed?

© 2013 Doc Fizzix Products. Saving the world with his knowledge of science

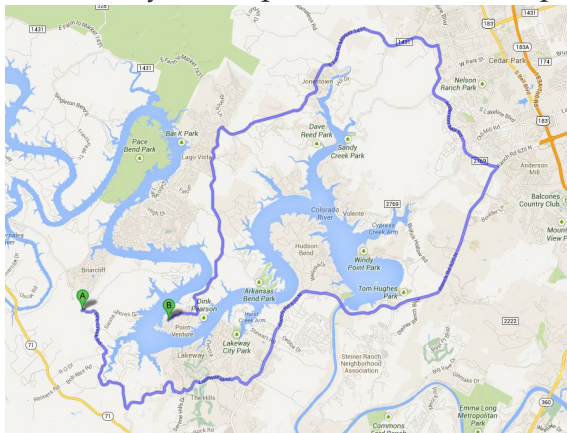


Chapter 1 Linear Motion

- 19. What was Doc Fizzix's average speed on his drive home from New Orleans?
- 20. Does the speedometer of a car read instantaneous speed or average speed?
- 27. How is velocity different from speed?
- 28. What SI units do we give to velocity?

1.3 Velocity

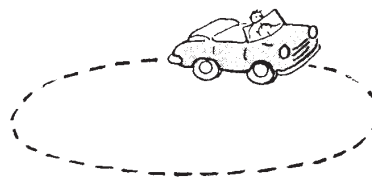
- 21. What is the a scalar?
- 22. What is a vector?
- 23. What is displacement?
- 24. The picture bellow shows the route in getting from point A to point B, identify the displacement on the map.



- 25. Define velocity.
- 26. What was Doc Fizzix's average velocity on his drive home from New Orleans?
- 29. Does your speedometer give you speed or velocity? Explain
- 30. Why do the police give you a speeding ticket and not a velocity ticket?

1.4 Acceleration

- 31. Define constant velocity.
- 32. Define changing velocity
- 33. If a car moves with a constant speed, can you say that it also moves with a constant velocity?



- 34. Does the fastest car always win the drag race?
- 35. Define acceleration?
- 36. What is the most important question to ask when buying a car?

© 2013 Doc Fizzix Products. Saving the world with his knowledge of science

