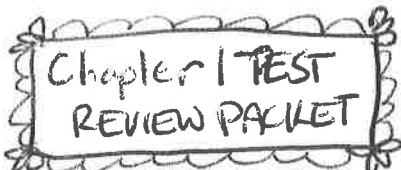


Review and Reinforce



*Turn in on test day 100% complete for Extra Credit!

Describing Motion (1.1)

Understanding Main Ideas

Answer the following questions in the spaces provided.

1. Describe how you determine whether an object is in motion.

2. Explain why reference points that are stationary are usually chosen to determine whether an object is in motion.

3. Give three examples of reference points that are stationary relative to Earth.

4. When determining the motion of the planets in the solar system, what is a good reference point to use? Explain.

5. Explain what centimeters, kilometers, and millimeters are.

Building Vocabulary

Match each term with its definition by writing the letter of the correct definition in the right column on the line beside the term in the left column.

- | | |
|--------------------------------------|---|
| 6. ___ motion | a. the measurement system used by scientists |
| 7. ___ reference point | b. the length of the path between two points |
| 8. ___ International System of Units | c. changing position relative to another object |
| 9. ___ distance | d. a place or object used for comparison to determine if an object is in motion |

Lesson Quiz

Describing Motion

Write the letter of the correct answer on the line at the left.

1. ____ Jane is sitting in the family car. Her mother is driving her from their house to the library. Jane waves as she passes her friend Marina. Which of the following is not moving with respect to Jane?
A Marina
B the family car
C the library
D Jane's house
2. ____ Which is the best reason for not using a moving car as a reference point?
A The car will get out of sight too quickly.
B It is difficult to tell other people which car you are using.
C It is difficult to determine which direction motion is occurring.
D The car has moving parts, like rolling tires, that can be distracting.
3. ____ Which of the following is the best reference point for describing the motion of the planets in our solar system?
A a space ship in orbit about Earth
B the center of the Milky Way
C Earth
D the sun
4. ____ Jeff is in a stationary school bus. Which is the best reference point for him to use to determine when the bus starts to move?
A the front entrance of the school
B the school bus sitting next to him
C a car waiting to pick up another student
D a student walking on the sidewalk

Fill in the blank to complete each statement.

5. The SI unit for measuring distance is the _____.
6. There are 1,000 _____ in a meter.
7. There are 1,000 meters in a(n) _____.
8. An object is in _____ if its position changes relative to another object.
9. A(n) _____ is a place or object used for comparison to determine if something is in motion.
10. _____ is the length of the path between two points.

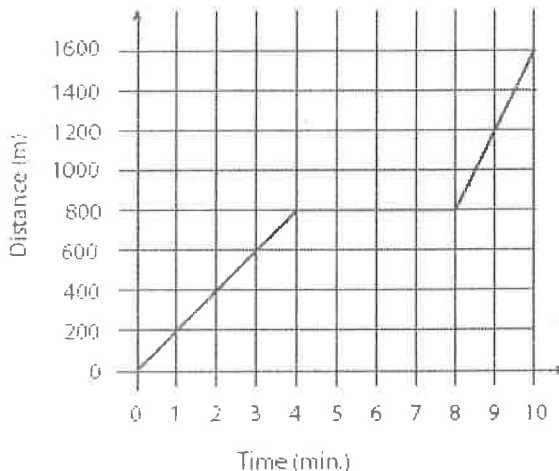
Review and Reinforce

Speed and Velocity (1.2)

Understanding Main Ideas

Use the following paragraph and graph to answer questions 1 through 5. Write your answers on a separate sheet of paper. Remember to include units in your answers.

On Saturday, Ashley rode her bicycle to visit Aileen. Aileen's house is directly east of Ashley's. The graph shows how far Ashley was from her house after each minute of her trip.



1. Ashley rode at a constant speed for the first 4 minutes of her trip. What was her constant speed?
2. What was her average speed for the entire trip?
3. What was her average velocity for the entire trip?
4. Ashley stopped to talk with another friend during her trip. How far was she from her house when she stopped?
5. What was Ashley's instantaneous speed 5 minutes into her trip?

Building Vocabulary

Match each term with its definition by writing the letter of the correct definition in the right column on the line beside the term in the left column.

- | | |
|----------------------------|--|
| 6. ___ average speed | a. the distance an object moves per unit of time |
| 7. ___ velocity | b. total distance divided by total time |
| 8. ___ instantaneous speed | c. speed at a given point in time |
| 9. ___ slope | d. speed in a given direction |
| 10. ___ speed | e. the steepness of a line on a graph |

Lesson Quiz

Speed and Velocity

If the statement is true, write *true*. If the statement is false, change the underlined word or words to make the statement true.

1. _____ On a distance-versus-time graph, a speed of zero would appear as a horizontal line.
2. _____ The SI unit for speed is m/min.
3. _____ A distance-versus-time graph will never show a horizontal line.
4. _____ The slope of a line is found by multiplying the rise by the run.
5. _____ On a distance-versus-time graph, a straight line indicates that an object's speed is zero.
6. _____ Speed in a given direction is called velocity.

Fill in the blank to complete each statement.

7. A speedometer shows the _____ speed of a vehicle.
8. To describe an object's motion, you need to know both its speed and its _____.
9. The _____ speed of an object is found by dividing the total distance by the total time.
10. Alfonso ran the 1,000-meter race in 2.5 minutes. Alfonso's average speed was _____ m/min.

Review and Reinforce

Acceleration (1.3)

Understanding Main Ideas

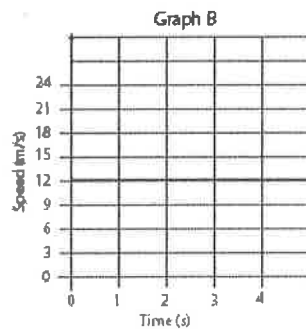
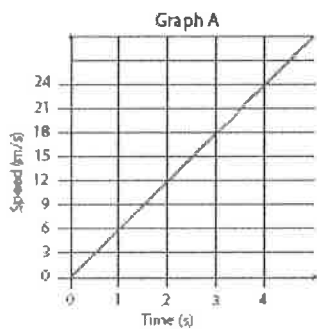
Answer the following questions in the spaces provided.

1. In science, what three changes can each cause an object to accelerate?

2. What is the equation for finding the acceleration of an object moving in a straight line?

3. Graph A below plots a race car's speed for 5 seconds. What is the car's rate of acceleration?

4. Graph B below plots the same race car's speed for a different 5-second interval. What is the car's rate of acceleration during this interval?



Building Vocabulary

Write a definition for the term on the lines below

5. acceleration

Lesson Quiz

Acceleration

If the statement is true, write *true*. If the statement is false, change the underlined word or words to make the statement true.

- _____ If a train is slowing down, it is accelerating.
- _____ To find the acceleration of an object moving in a straight line, you must calculate the change in distance for each unit of time.
- _____ A Ferris wheel turning at a constant speed of 5 m/s is not accelerating.
- _____ An airplane is flying west at 200 km/h. Two hours later, it is flying west at 300 km/h. Its average acceleration is 100 km/h².
- _____ A speed-versus-time graph for a car's motion is a horizontal line at a speed of 12 m/s. The car's acceleration during this time is 12 m/s².
- _____ The SI units for acceleration are km/h².

Fill in the blank to complete each statement.

- The rate at which the velocity of an object changes is the object's rate of _____.
- An airplane is accelerating at 8 m/s². Each second its speed increases by _____ m/s.
- An airplane is accelerating at -8 m/s². The distance the airplane travels each second is _____ than the distance it traveled during the previous second.
- An amusement park ride falls straight down for 4 seconds. During this time, the ride accelerates from a speed of 0 m/s to 40 m/s. The ride's rate of acceleration during the 4 seconds is _____ m/s².