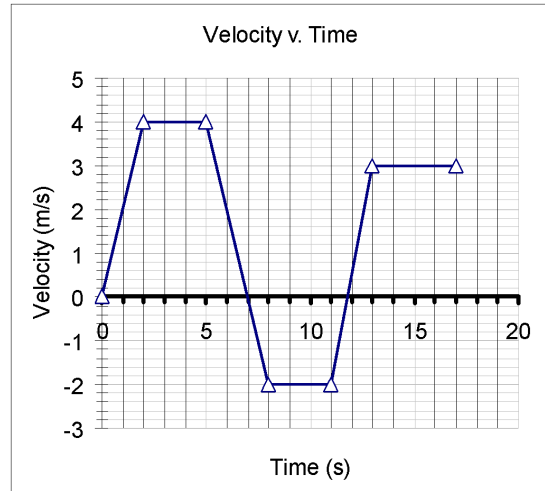


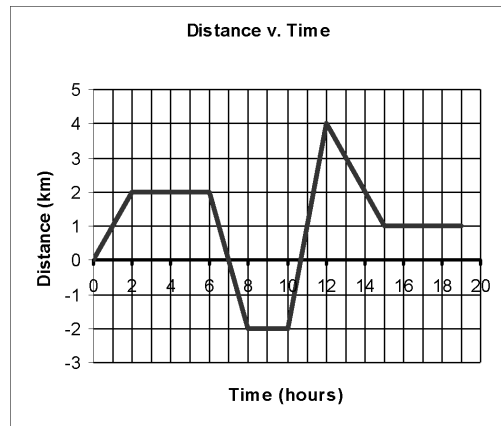
Name \_\_\_\_\_ Date \_\_\_\_\_

Chapter 1 Review

1. Use the graph below to answer the following questions:
  - a) When is the object stopped?
  - b) Determine the acceleration from 0-2 seconds and from 2-5 seconds
  - c) Find the change in distance from 13-17 seconds
  - d) When is the object moving left or down?



2. Use the distance – time graph to answer the questions below:
  - a) When is the object stopped?
  - b) Determine the velocity at 4 hours and 11 hours.
  - c) When is the object moving left or down?



3. Hugh G. Racer steps into his BMW and smoothly accelerates from rest at  $2.1 \text{ m/s}^2$  for 11.3 seconds. What is his final speed?
4. A car traveling at a constant speed of 15 m/s travels for 52 seconds . How far did it go?

5. Many driving experts recommend that novice drivers do not drive with groups of friends in their automobile. The major reason the experts suggest this is because friends may
- suggest that the driver exceed the speed limit, increasing risk.
  - want to drink alcohol in the automobile.
  - be a distraction that would increase driver reaction time.
  - urge the driver to go through a yellow light when in the STOP Zone.
6. In a class demonstration, a teacher drops a dollar bill held between the fingers of a student to test how quickly the student can respond by catching the bill. The reason the bill is so difficult to catch is because
- the dollar bill is thrown downward.
  - student's reaction time is too long.
  - the dollar bill is affected by air resistance.
  - student's fingers are affected by air resistance.
7. A friend measures the length of the school soccer field to be sure that it is the correct size. Which measuring device will most likely help your friend get the most accurate answer?
- A 50-m tape measure accurate to the nearest cm.
  - A meter stick accurate to the nearest cm.
  - A meter stick accurate to the nearest mm.
  - A 30-cm ruler accurate to the nearest mm.
8. A friend claims that he can measure exactly how much water is in a one-gallon jug after taking a drink from it. You disagree with your friend. Which of the following reason(s) would a scientist give for agreeing with you?
- All measurements contain random errors.
  - All measurements are at best an estimate of the true value.
  - A perfect measurement requires a very expensive instrument, which your friend cannot afford.
- I only
  - I, II, III
  - II only
  - I and II only
9. Some students decide to take a bike ride. For the first two hours they travel at a speed of 15 mi/hr, they then stop for lunch for an hour. The students then ride for another hour at 10 mi/hr. What was their average speed for the trip?
- 10 mi/hr
  - 12.5 mi/hr
  - 13.3 mi/hr
  - 15 mi/hr
10. Which of the following has no effect on the stopping distance of an automobile approaching a yellow light?
- the driver's reaction time
  - the condition of the automobile's brakes
  - the automobile's velocity
  - the time the light remains yellow

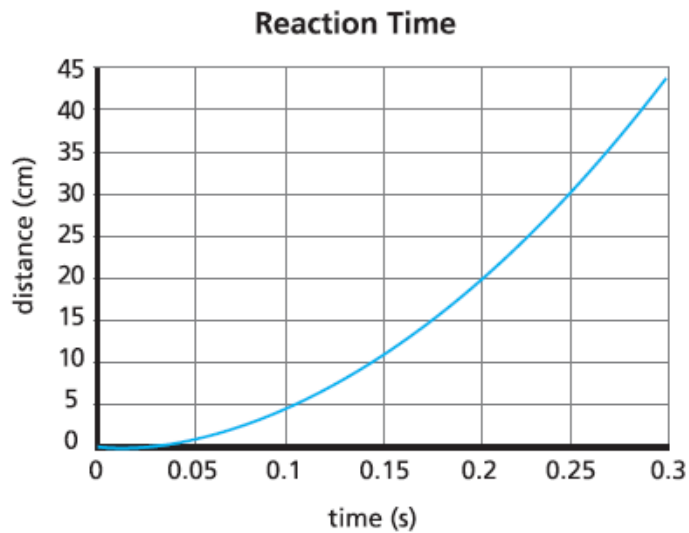
11. A ball is rolling across a horizontal table at a constant speed from left to right, then rolls up a ramp where it comes to rest.
  - a) Draw a strobe photograph of the ball's motion as it is rolling across the table. Label the first point A and each successive point, B, C, D, and so on.
  - b) Draw a velocity vs. time AND a distance vs. time graph for the ball as it rolls across the table.
  - d) Draw a strobe photograph of the ball's motion as it rolls up the ramp. Label the first point on the ramp 1 and each successive point, 2, 3, 4, and so on.
  - e) Draw a velocity vs. time AND a distance vs. time graph for the ball as it rolls up the ramp.
  
12. Describe what systematic and random errors are. List two examples for each type of error.

13. What happens to the braking distance of a car if the car's initial speed when it begins to brake is

- a. doubled:
- b. tripled:
- c. halved:
- d. quadrupled:

14. Using the graph below, determine the reaction time of a student trying to catch a falling meter stick if the meter stick fell

- a) 17 cm
- b) 35 cm



15. List the units for the following terms

- |                 |             |                 |                  |
|-----------------|-------------|-----------------|------------------|
| a) Distance     | b) velocity | c) displacement |                  |
| d) acceleration | e) speed    | f) time         | g) reaction time |