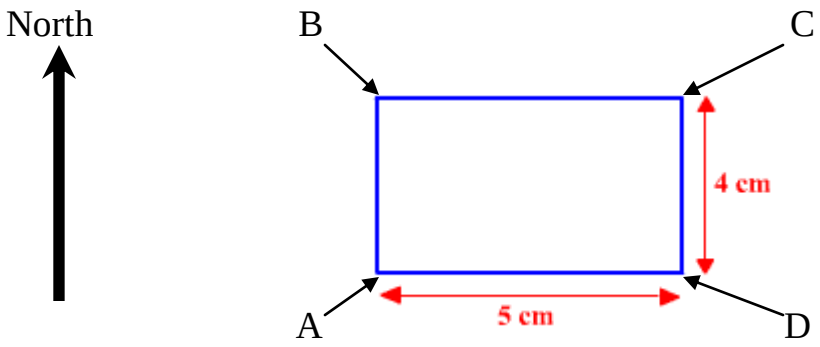
Chapter 2 Test Review Physical Science

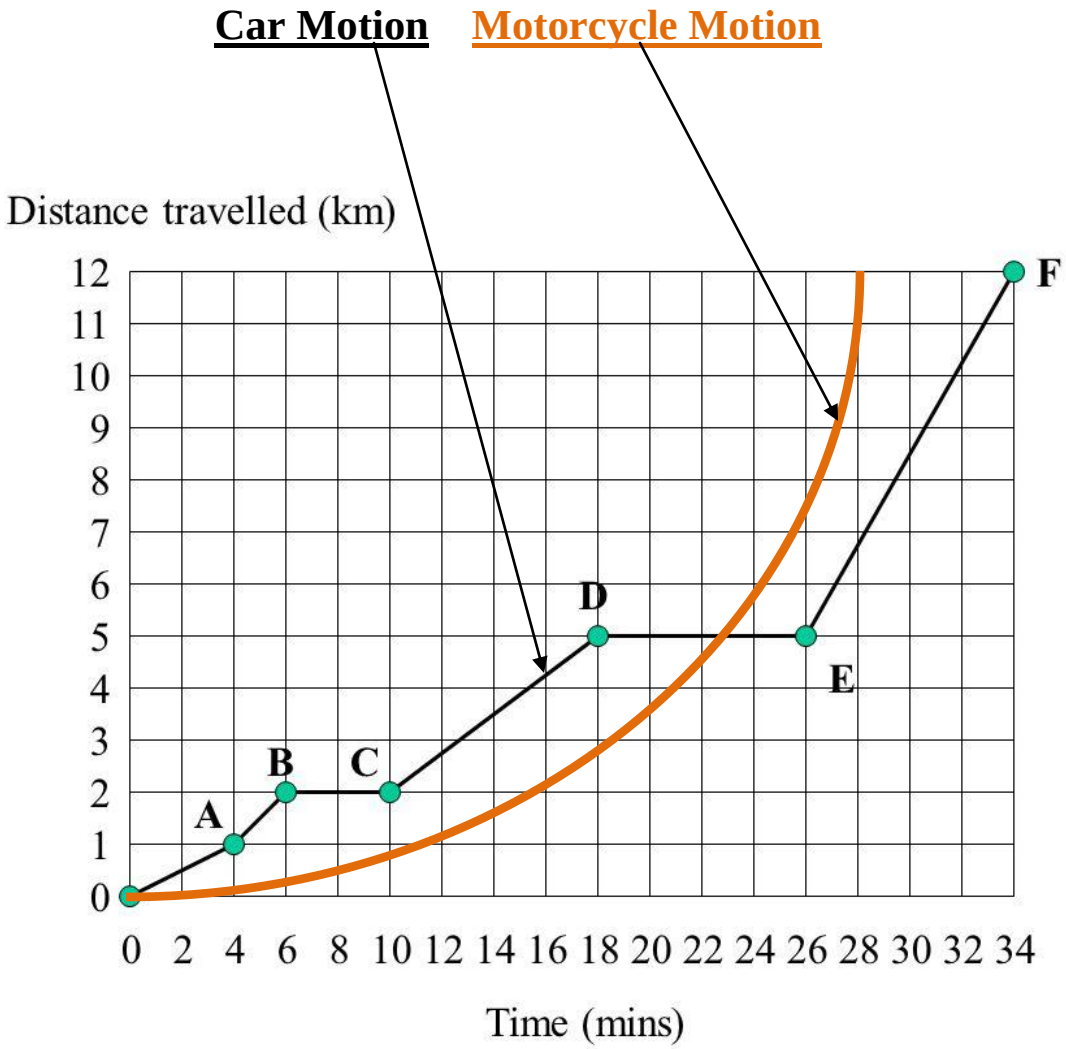
Answer the following questions on a separate piece of paper. If the answer requires units, make sure to include the unit.



If an ant crawls from point A to point B to point C to point D and back to point A on the above rectangle, what are the answers to the following questions (1-17):

1. If the ant walked from point A to point B and then turned around and walked right back to point A, What would be the distance traveled?
2. What would be the displacement in question 1?
3. What is the distance from point A to point C?
4. What is the displacement at point C?
5. What is the total distance traveled by the ant?
6. What is the distance traveled at point D?
7. What is the displacement at point D?
8. At point B what is true about the displacement compared to the distance traveled?
9. Explain the difference between speed and velocity.
10. What is the equation for speed?
11. If the ant travels to point B in 2.5 second, what is the speed of the ant?
12. What is the velocity of the ant in question 11?
13. What is the speed of the ant if it travels to point D in 9.0 seconds?
14. What is the velocity of the ant in question 13?
15. If the ant were traveling at a rate of 11 cm/s, how long would it take for the ant to travel all the way around the rectangle?
16. What is the formula for acceleration?
17. If the ant is stopped at point A and is traveling at 5 m/s by the time it gets to point C, and it took 7 s for this to happen, what is the acceleration of the ant?
18. If a car slows from 70 mph to 20 mph in 3 s to avoid hitting another car, what is the acceleration of the car?

19. What are two measurements form this chapter, that depend on direction?
20. When a truck is approaching a stop light does it have positive or negative acceleration?
21. When a person is running laps on a track, is it possible to have a constant speed and a changing velocity? Explain.
22. Is it possible to accelerate without changing your speed? Explain.
23. Can you ride a bike down a street with zero acceleration? Explain.
24. Can a car accelerate on a straight section of road? Explain.
25. In what situations would velocity be more important than speed?



Use the graph above to answer the following questions about a moving car (26-33):

26. At which time interval on the graph is the car stopped?
27. At which time interval on the graph is the car moving the fastest?

28. What does the slope of the line on the above graph tell about the car?
29. What is the speed of the car between points C and D?
30. What is the average speed of the car in the graph?
31. What does the curved line for the motorcycle indicate?
32. If you take a trip in a car to California, would you be more interested in instantaneous speed or average speed? Explain.
33. Which reaches the highest speed, the car, or motorcycle?
34. How much time did it take for the motorcycle and the car above to travel the same distance?
35. What is the frame of reference used for?
36. What is the most common frame of reference?
37. If you were talking to someone next to you in a bus, while you are traveling down the interstate, what would be the most probable frame of reference? Explain.
38. If you go around a curve in a car, with the cruise control on, are you moving at a constant speed? Explain

    Are you moving at a constant velocity? Explain.

    Are you accelerating? Explain.