**Test 5 Motion and Distance Time Graph Study Guide**

Define the following terms

1. Position
2. Reference Point
3. Motion
4. Distance
5. Time
6. Relative Motion
7. Speed
8. Velocity
9. The location you compare your object or place’s position to is called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
10. You can also describe position by using coordinates of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
11. How motion is observed depends upon the observer’s point of view, this is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
12. What is the difference between Speed and Velocity?
13. Speed = \_\_\_\_\_\_\_\_\_\_\_\_\_ Distance = \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Time = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
14. Use this chart to create a distance-time graph

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Car** | **0 sec** | **1 sec** | **2 sec** | **3 sec** | **4 sec** | **5 sec** | **6 sec** |
| **A** | 0 m | 7 m | 13 m | 25 m  | 40 m | 57 m | 66 m |
| **B** | 0 m | 5 m | 10 m | 15 m | 20 m | 25 m | 30 m |
| **C** | 0 m  | 11 m | 17 m | 27 m | 36 m | 42 m | 53 m |
| **D** | 0 m | 9 m | 20 m | 31 m | 43 m | 52 m | 61 m |



1. Calculate the average speed of car C.
2. Calculate the average speed of car D.
3. What is the average speed for car A

for the interval of 3-5 seconds?

1. What is the average speed for car B

 for the interval of 2-6 seconds?

Calculate the distance, time, and speed. MUST SHOW WORK!

1. The fastest car on Earth, a British-made Thrust SSC, would win every NASCAR race in America. If it takes 0.5 hours (30 minutes) to travel 380 miles, what is its speed?
2. The pitcher’s mound in baseball is 85 m from the plate. It takes 4 seconds for a pitch to reach the plate. How fast is the pitch?
3. The fastest train in the world moves at 500 km/hr. How far will it go in 3 hours?
4. Every summer I drive to Michigan. It is 3900 km to get there. If I average 100 km/hr, how much time will I spend driving?

Give a scenario of what is happening in each graph.

23 . Graph G:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 24. Graph C:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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25. Graph I:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 26. Graph J:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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27. What does a flat line on a Distance-Time Graph mean?