Distance Time Graphs
Practice Problems

Examine the graphs below:

Runner 1= Runner 2 =

Graph A       Graph B

Graph C        Graph D

1. Which of the graphs show that one of the runners started 10 yards further ahead of the other?______
2. Explain your answer.
3. In graph D, which of the runners is faster?__________________________________________________
4. Calculate the speed of Runner 1 and Runner 2 for Graph D. Show your Work

<table>
<thead>
<tr>
<th>Time (seconds)</th>
<th>Distance (yards)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>4</td>
<td>20</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time (seconds)</th>
<th>Distance (yards)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>3</td>
<td>30</td>
</tr>
<tr>
<td>4</td>
<td>40</td>
</tr>
</tbody>
</table>
1. In which of the graphs (A or C) are both runners moving at the same speed?

2. Calculate the average speed for Runner 2 in graph B.

3. What is the total distance for Runner 2 in Graph A?

4. In Graph B, about how long did it take for Runner 1 to travel between 10 and 20 yards?

5. Which runner traveled the farthest in Graph D?
The distance –time graphs below represent the motion of a car. Match the descriptions with the graphs. Explain your answers.

Descriptions:

1. The car stopped.
2. The car is traveling at constant speed.
3. The speed of the car is decreasing.
4. The car is coming back.

Graph A matches description _______ because________________________________________________.

Graph B matches description _______ because________________________________________________.

Graph C matches description _______ because________________________________________________.

Graph D matches description _______ because________________________________________________.
Look at the graph above. It shows how three runners ran a 100-meter race.

1. Which runner won the race?_________________________________________________________
2. Explain your answer.

3. Which runner stopped for a rest?_____________________________________________________
4. Explain your answer.

5. How long was the stop?_______________________________________________________________
6. Explain your answer.

7. How long did Bob take to complete the race?_____________________________________________
8. Explain your answer.

9. Calculate each runner’s average speed. Show your Work!
   a. Albert________________________________________________________
   b. Bob__________________________________________________________
   c. Charlie_______________________________________________________