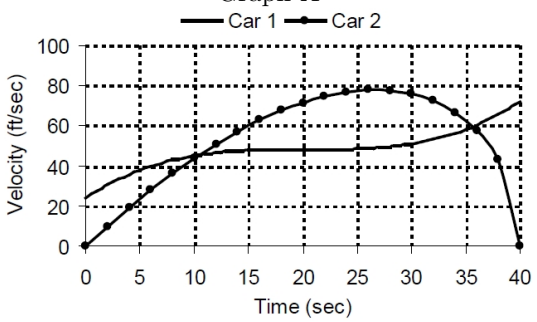
Section 5.3

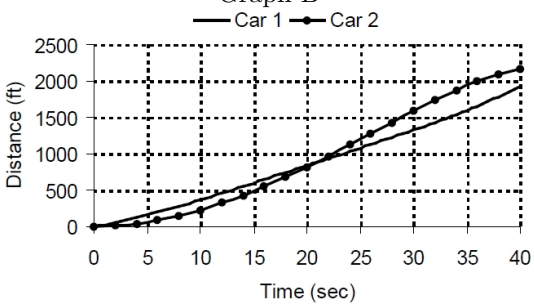
Cars Problem

Two cars are traveling on a straight road. At time zero, measurements of velocity and distance from a common reference point are made.

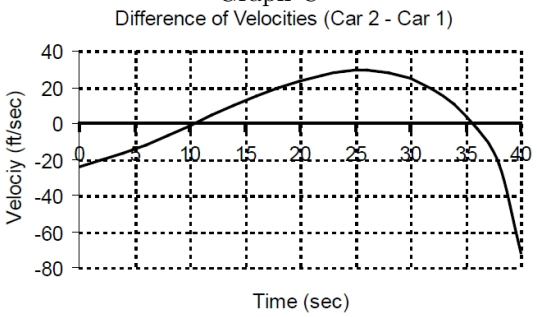
Graph A



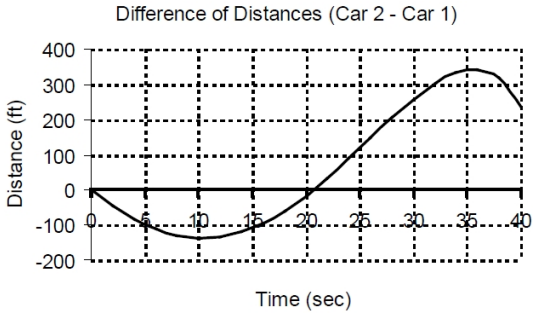
Graph B



Graph C



Graph D



1. What graphical feature appears at $t \approx 20$ on: Graph A Graph B Graph D

2. What graphical feature appears at $t \approx 26$ on: Graph A Graph C Graph D

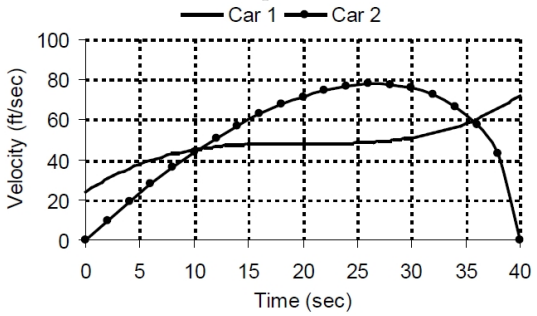
3. What graphical feature appears at $t \approx 36$ on: Graph A Graph C Graph D

4. What graphical feature appears at $t \approx 10$ on: Graph A Graph B Graph C Graph D

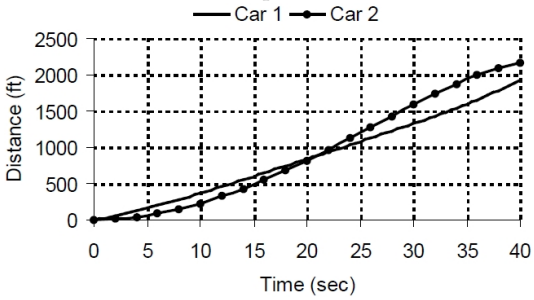
Solutions.

Two cars are traveling on a straight road. At time zero, measurements of velocity and distance from a common reference point are made.

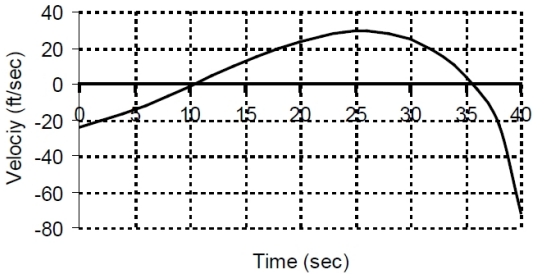
Graph A



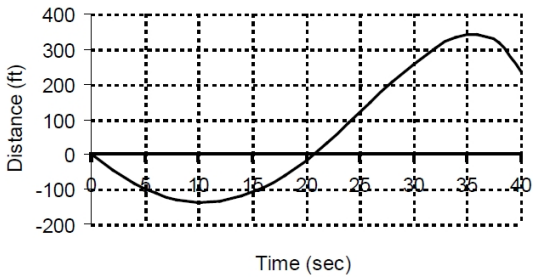
Graph B



Graph C



Graph D



1. What graphical feature appears at $t \approx 20$ on:

   Graph A – The areas under each of the graphs are approximately the same.
   Graph B – The intersection between the two graphs.
   Graph D – The horizontal intercept of the graph.

2. What graphical feature appears at $t \approx 26$ on:

   Graph A – The largest vertical difference between the two graphs where the velocity of the second car is greater than the first.
   Graph C – The maximum of the graph.
   Graph D – The inflection point on the graph.

3. What graphical feature appears at $t \approx 36$ on:

   Graph A – The intersection between the two graphs.
   Graph C – The horizontal intercept of the graph.
   Graph D – The maximum of the graph.

4. What graphical feature appears at $t \approx 10$ on:

   Graph A – The intersection between the two graphs.
   Graph B – The largest vertical difference between the two graphs where the velocity of the first car is greater than the second.
   Graph C – The horizontal intercept of the graph.
   Graph D – THee minimum of the graph.