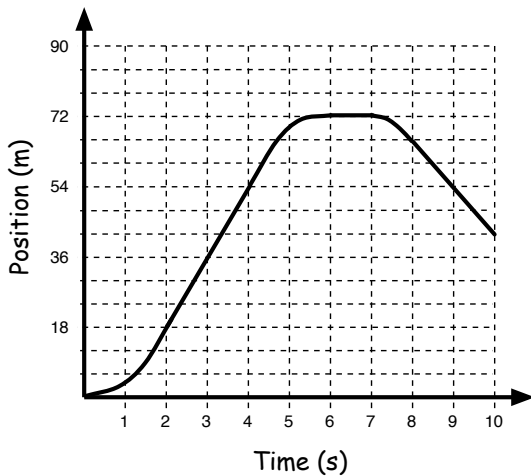


Graphical Analysis of Motion

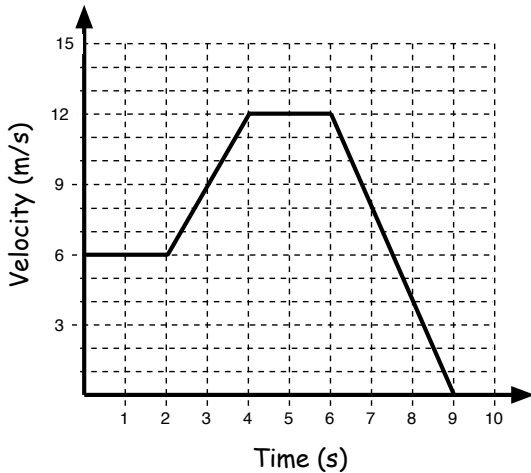
Part 1: Concepts:

1. The graph below shows the position vs time for an object in motion. Give a description of what the object is doing during each of the intervals listed in the table below:



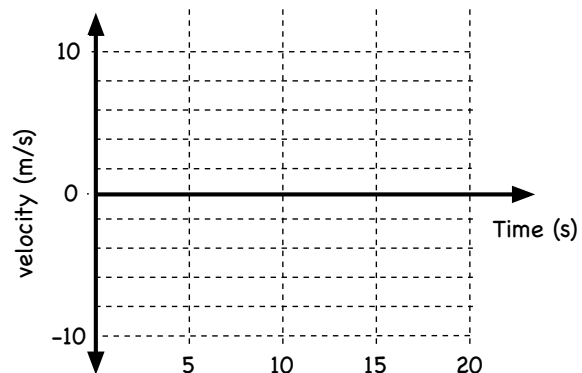
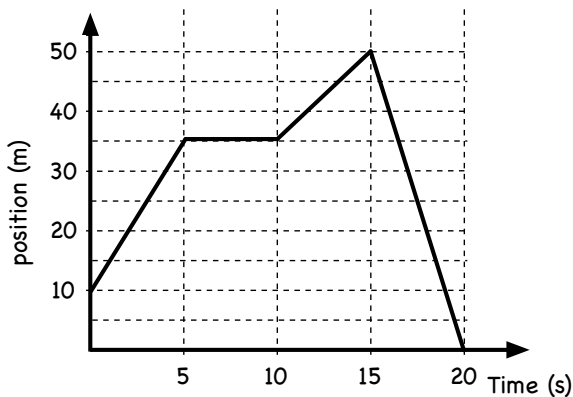
| Region | Start Time (s) | End Time (s) | Description of Motion |
|--------|----------------|--------------|-----------------------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

2. The graph below shows the velocity vs time for an object in motion. Give a description of what the object is doing during each of the intervals listed in the table below



| Region | Start Time (s) | End Time (s) | Description of Motion |
|--------|----------------|--------------|-----------------------|
| | | | |
| | | | |
| | | | |
| | | | |

3. The graph below is a graph of position versus time. Use this graph to create a graph of velocity vs. time.



Name:

Date:

Part 2: Practice Problems:

4. One of the best runners ever from the state of New Jersey was a man called Carl Lewis. In 1991 he set the record for the 100-m run with a time of 9.86 seconds. To get a better idea of his performance in this event his times to run each 10-meter section of the race were released to the public. Below is a chart that lists these times for each 10-meter interval. Use these charts to plot his position as a function of time. For an added challenge also make a graph of his velocity as a function of time.

| Interval | Time for Interval (s) | Position (m) | Total Time (s) | Velocity (m/s) |
|----------|-----------------------|--------------|----------------|----------------|
| 1 | 1.88 | | | |
| 2 | 1.08 | | | |
| 3 | 0.92 | | | |
| 4 | 0.89 | | | |
| 5 | 0.84 | | | |
| 6 | 0.84 | | | |
| 7 | 0.84 | | | |
| 8 | 0.83 | | | |
| 9 | 0.85 | | | |
| 10 | 0.89 | | | |

