$\qquad$
1.) Plot the data displayed below, determine the following:
a) average velocity for first 2.5 sec
b) average velocity from 2.5 to 7.5 sec
c) velocity at exactly 2.5 sec

| Time (s) | Distance (m) |
| :---: | :---: |
| 0 | 10 |
| 0.5 | 13.1 |
| 1.0 | 15.9 |
| 1.5 | 18.1 |
| 2.0 | 19.5 |
| 2.5 | 20.5 |
| 3.0 | 19.5 |
| 3.5 | 18.1 |
| 4.0 | 15.9 |
| 4.5 | 13.1 |
| 5.0 | 10.0 |
| 5.5 | 6.9 |
| 6.0 | 4.1 |
| 6.5 | 1.9 |
| 7.0 | 0.5 |
| 7.5 | 0 |
| 8.0 | 0.5 |
| 8.5 | 1.9 |
| 9.0 | 4.1 |
| 9.5 | 6.9 |
| 10 | 10 |


2.) Describe the motion of the object in the graphs below.





3.) Use the graph below to determine the following:

a) Velocity of runners $A$ and $B$.
b) Distance head start of runner $B$.
c) Time and distance when $A$ passes $B$.
4.) Ben and Carl both run a 100 m dash. Ben runs at $10.0 \mathrm{~m} / \mathrm{s}$ and Carl can only run at $6.0 \mathrm{~m} / \mathrm{s}$. Ben gives Carl a 30.0 m head start.
a) Draw a distance vs. time graph for the two runners.

b) Who wins based on your graph?
c) What head start would result in a tie?

