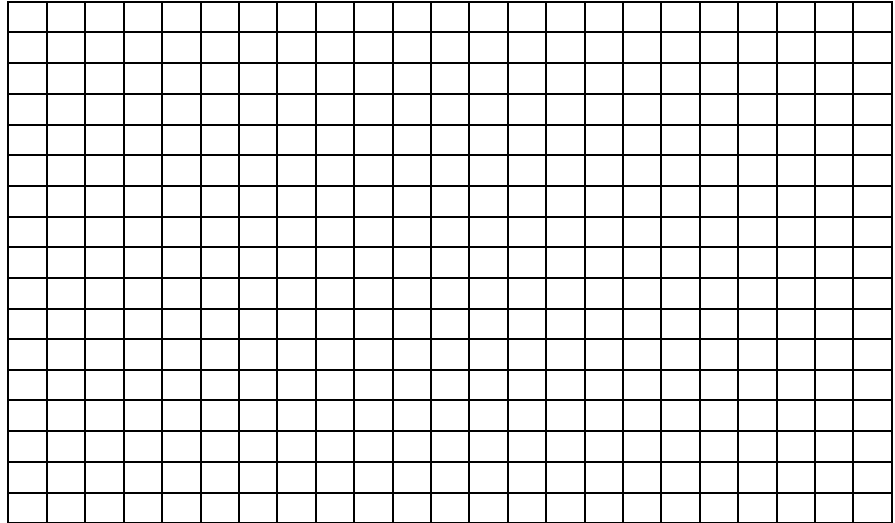


## Position and Velocity Graphing Practice

### Position versus Time

Graph the following data on the grid below and answer the problems at the bottom of the page. **SHOW YOUR WORK!** Remember to correctly label each axis and title your graph.

<i>Time</i>	<i>Position</i>
(s)	(m)
0	0
1	3.5
2	7
3	10.5
4	14
5	17.5
6	21
7	24.5
8	28
9	31.5
10	35
11	38.5
12	42
13	45.5
14	49
15	52.5



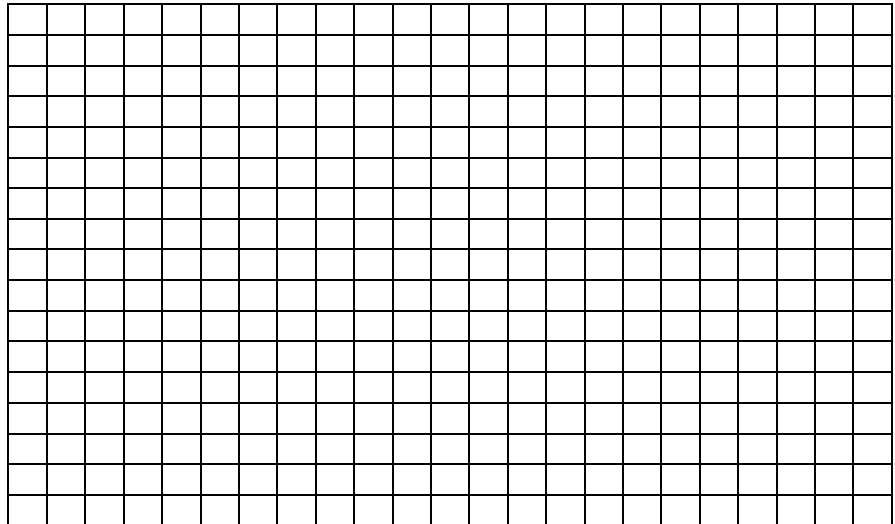
- (1) Based on your graph, would you say that the velocity of this object is constant? Why or why not?
  
- (2) Calculate the **average** velocity for this motion.
  
- (3) What is the **instantaneous** velocity at 6 seconds?
  
- (4) How long would it take for the object to travel 75 m?
  
- (5) How far would the object travel in 30 s?
  
- (6) How would the shape of your graph vary if the velocity was *changing*, not constant?

## Position and Velocity Graphing Practice

### Velocity versus Time

Plot the following data on the graph and answer the questions below. **SHOW YOUR WORK.**  
Remember to correctly label and title your graph.

<i>Time</i> (s)	<i>Velocity</i> (m/s)
0	0
2	10
4	20
6	30
8	40
10	50
12	60
14	70
16	80
18	90
20	100



- (1) According to your graph, is velocity constant? Why or why not?
  
- (2) What does the slope of the line in your plot represent? \_\_\_\_\_
- (3) Calculate the slope of your plot.
  
- (4) Assuming that the acceleration is constant, what would the velocity of the object be at 25 seconds?
  
- (5) At what time would the object reach a speed of 120 m/s?
  
- (6) What would the shape of the graph be if a speed of 50 m/s was constant from 10 s to 20 s?
  
- (7) How would the shape of your graph above change if the velocity of the object **decreased** from 100 m/s at 0 s to 50 m/s at 10 s