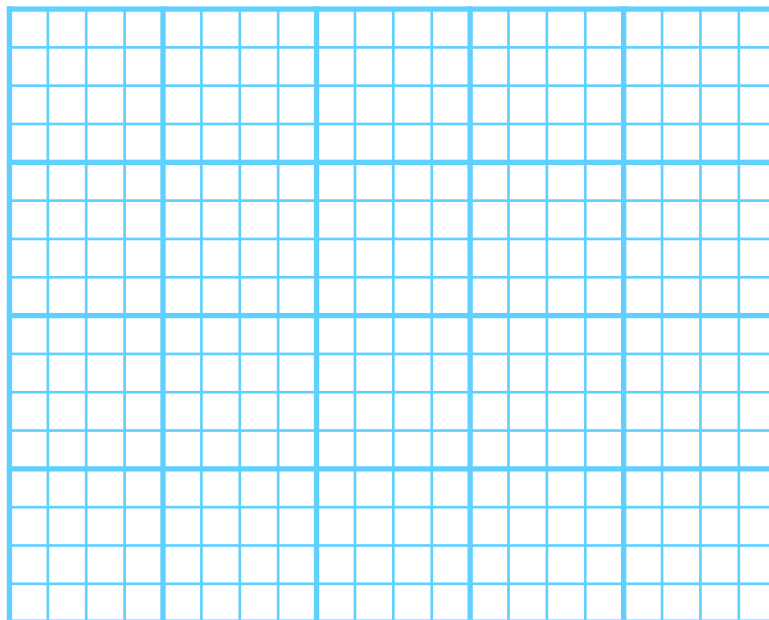


## Position and Velocity Graphing Practice

### 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> (s)	<i>Position</i> (m)
0	0
3	4
6	8
9	12
12	16
13	16
14	16
15	16
16	16
17	12
18	8
19	4
20	0



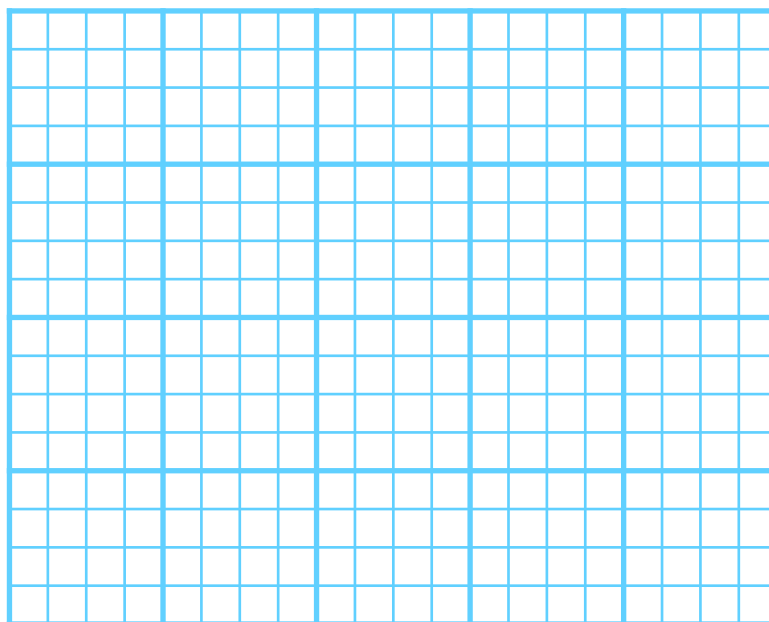
- Based on your graph, would you say that the velocity of this object is constant? Why or why not?
- Without doing any calculations, describe the motion in words.
- Calculate the **average** velocity for this motion.
- When was the object moving the fastest? How can you tell?
- Calculate the fastest speed from the motion, as well as its velocity.
- What is the **instantaneous** velocity at 6 seconds?

## 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	-8
1	-6
2	-4
3	-2
4	0
5	2
6	4
7	6
8	8
10	8
12	8
14	8
16	8
18	8
20	8



1. According to your graph, is velocity constant? Why or why not?
2. Without doing any calculations, describe the motion in words.
3. From a velocity graph, how can you determine the acceleration?
4. There are two accelerations you can calculate. Do that please.
5. What happens to the velocity every second between 0 and 8 seconds? How does that compare to the acceleration you hopefully calculated in number 4?
6. What happens to the velocity every second between 8 and 20 seconds? How does that compare to the acceleration you hopefully calculated in number 4?
7. Was the object accelerating at  $t = 4$  seconds? Explain your answer.