

Graphing Motion

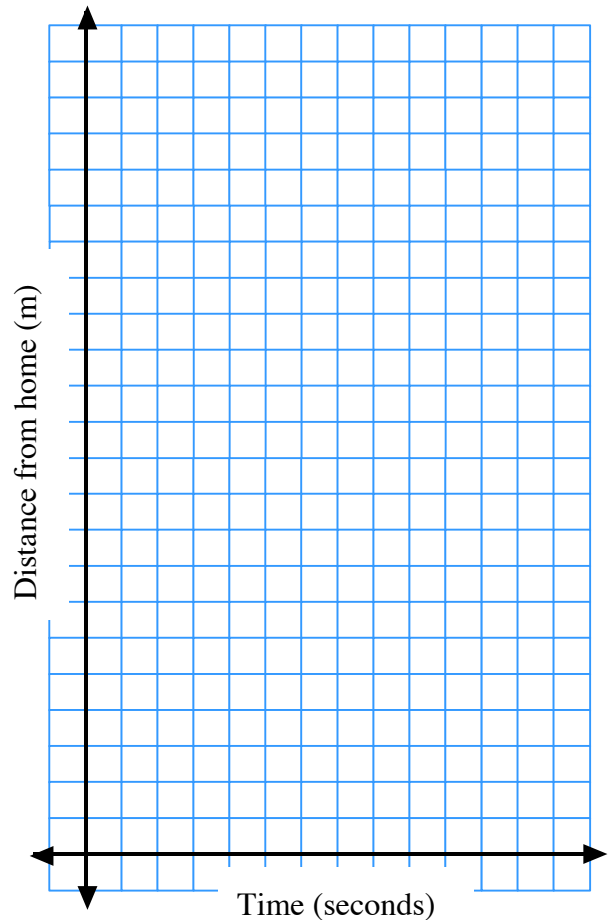
Name _____

Speedy is taking a jog. He leaves his house and travels at 3 meters per second (m/s).

1. How far has he gone after 0? 1? 2 seconds?
2. Complete the table at right showing the distance that Speedy has traveled versus the time that has passed.
3. Plot the points from your table on the graph below.
4. Should you connect the points of your graph? Why or why not?

Time since start (sec)	Distance traveled (m)
0	
1	
2	
3	
4	
5	
6	

5. How far has Speedy gone after t seconds? This is a formula for his trip and the equation for the graph that you made.
6. At the same time that Speedy headed out, Shlomo was 10 meters away and began walking away from the house at the modest pace of 1 m/s.
7. How far from the house is Shlomo after 0 seconds? 2 seconds? 5 seconds? t seconds?
8. Graph Shlomo's trip on the same graph at right.
9. Velvie the Velocaraptor was D meters away at the start and traveled F meters per second. How far was he after 0 seconds? 1 second? 3 seconds? t seconds?

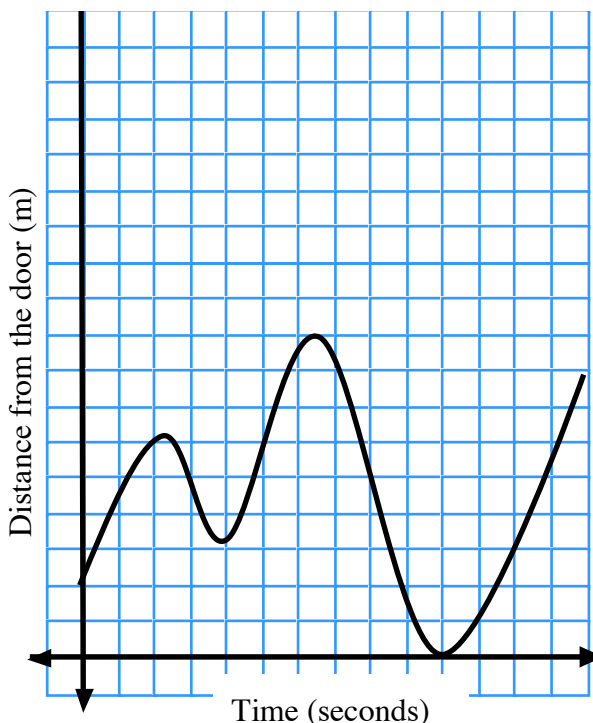


Bob is blindfolded and walking back and forth in a hallway. There is a door at one end of the hallway. The graph below gives **Bob's distance from the door at each point in time**.

Label the axes and then answer each of the following.

INCLUDE UNITS in your answers.

- a) How far is Bob from the door 5 seconds into his wanderings? _____
- b) What is the farthest he gets from the door? _____
- c) List two specific times at which Bob is getting closer to the door. _____ and _____
- d) Does Bob ever bump into the door? If so, at what time? If not, how do you know?
- e) What is Bob's average velocity from 4 to 6 seconds? (show work).



- f) What is Bob's average velocity from 3 to 8 seconds? (show work). Is that also his average speed?
- g) What is the fastest that Bob moves? _____