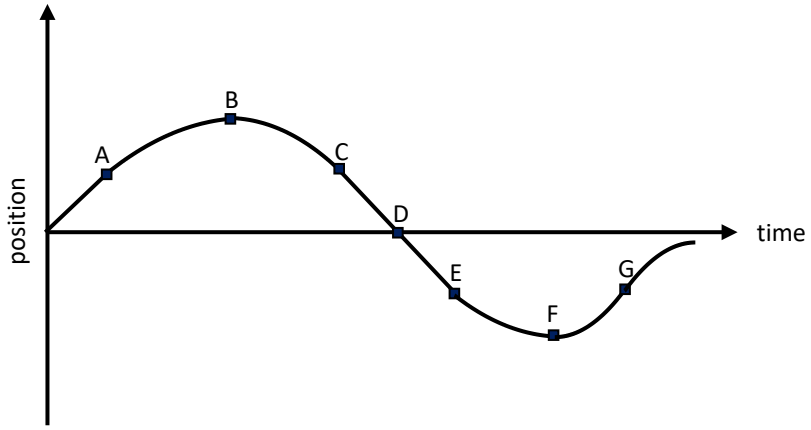
Name_____

Date_____ **Pd**____

Unit 2 Worksheet 4:

Object A:

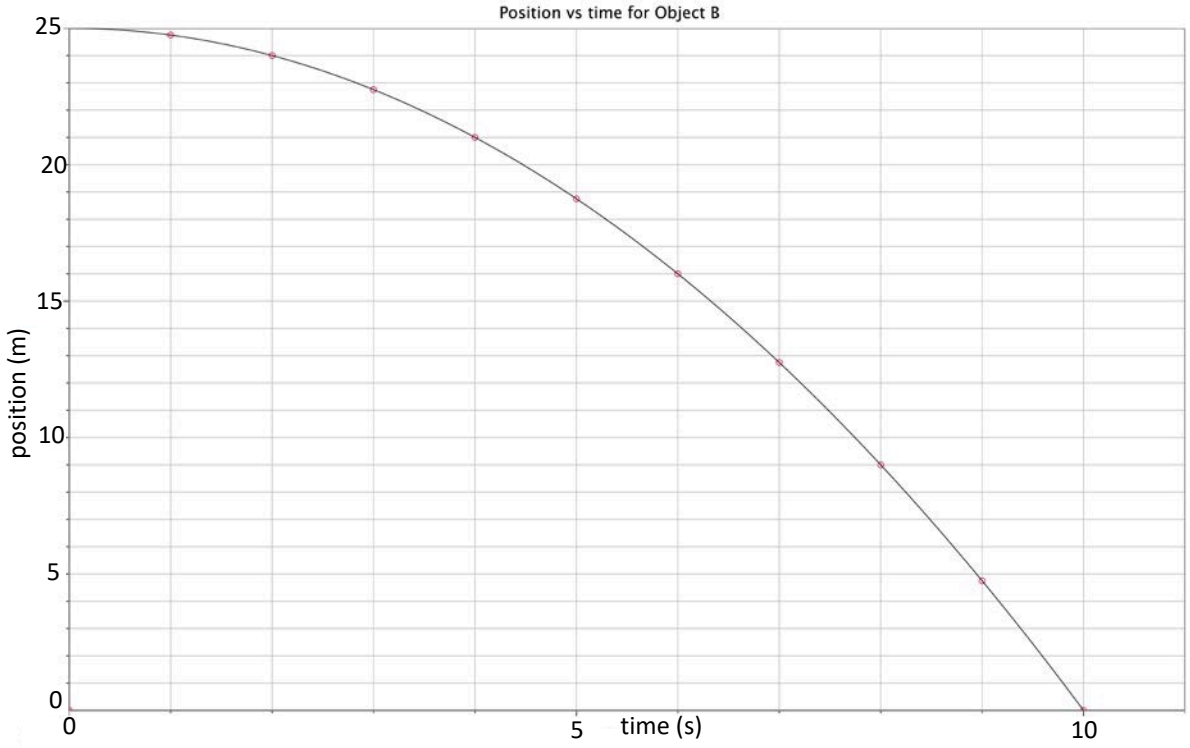


a. Where on the graph above is the object moving most slowly? How do you know?

b. Between which points is the object speeding up? How do you know?

c. Between which points is the object slowing down? How do you know?

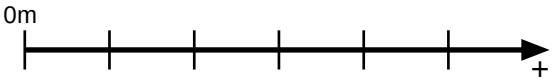
d. Where on the graph above is the object changing direction? How do you know?



a. Give a written description of the motion.

b. Represent object B's motion with a motion map. Include both velocity and acceleration vectors.

vel:



acc:

c. Find the **displacement** from t = 2.0 s to t = 8.0s.

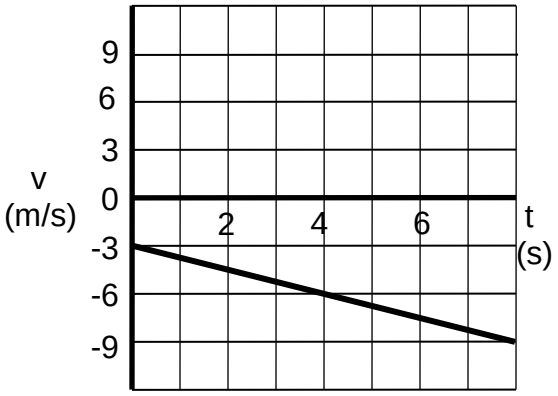
d. Find the **average velocity** from t = 2.0 s to t = 8.0s.

e. Find the **instantaneous velocity** at t = 2.0 s and t = 8.0s by finding slopes of tangents.

f. Determine the **average acceleration** from t = 2.0 s to t = 8.0s.

g. What is the **instantaneous velocity** at t = 5.0 s? Explain.

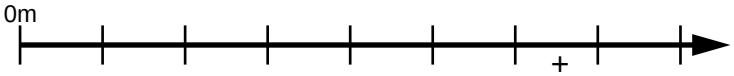
Object C:



a. Give a written description of the motion.

b. Sketch a motion map. Be sure to include both velocity and acceleration vectors.

vel:



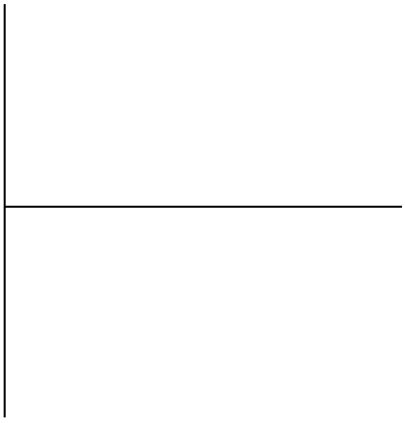
acc:

c. Determine the displacement from t = 0s to t = 4 s.

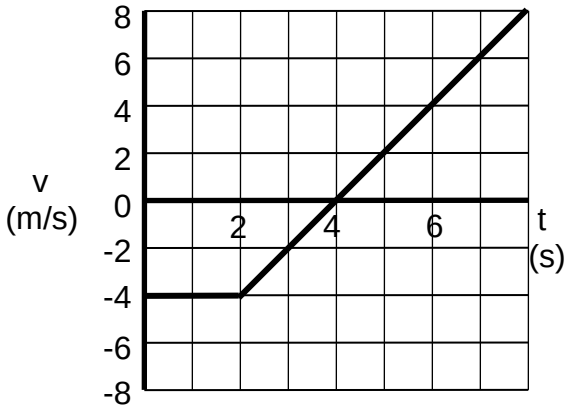
d. Determine the displacement from t = 4 s to t = 8 s.

e. Determine the average acceleration of the object's motion.

f. Sketch a possible x-t graph for the motion of the object.
Explain why your graph is only one of many possible graphs.

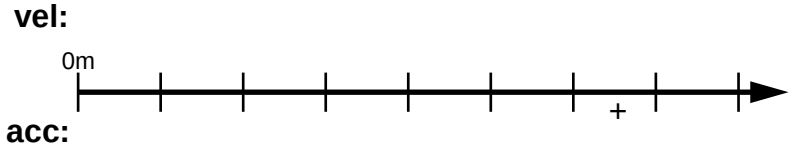


Object D:



a. Give a written description of the motion.

b. Sketch a motion map. Be sure to include both velocity and acceleration vectors.



c. Determine the displacement from t = 0 s to t = 4 s.

d. Determine the displacement from t = 4 s to t = 8 s.

e. Determine the displacement from t = 2 s to t = 6 s.

f. Determine the object's acceleration at t = 4 s.

g. Sketch a possible x-t graph for the motion of the object.
Explain why your graph is only one of many possible graphs.