Name_____

Lab Partner(s)_____

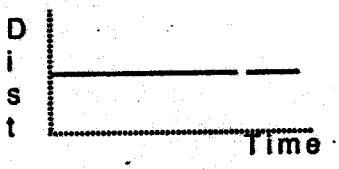
HOMEWORK: INTRODUCTION TO MOTION
Distance(Position)-Time Graphs

Answer the following questions in the spaces provided.

1. What do you do to create a horizontal line on a distance-time graph?

_____

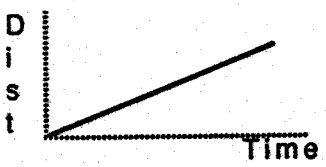
_____



2. How do you walk to create a straight line that slopes up?

_____

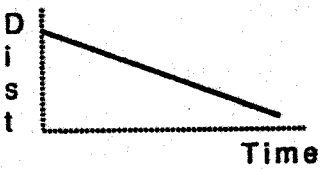
_____



3. How do you walk to create a straight line that slopes down?

_____

_____

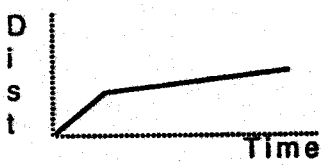


4. How do you move so the graph goes up steeply at first, and then continues up gradually?

_____

_____

_____

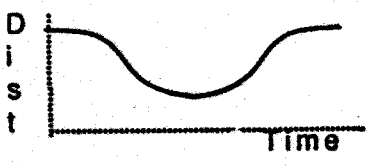


5. How do you walk to create a U-shaped graph?

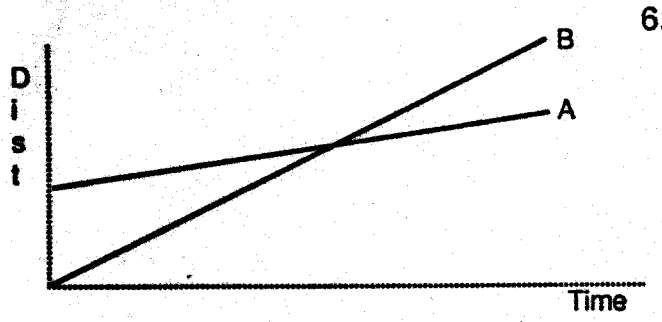
_____

_____

_____



Answer the following about two objects, A and B, whose motion produced the following distance (position) -time graphs.



6. a) Which object is moving faster--A or B?_____

b) Which starts ahead? _____
Define what you mean by "ahead."

_____

_____

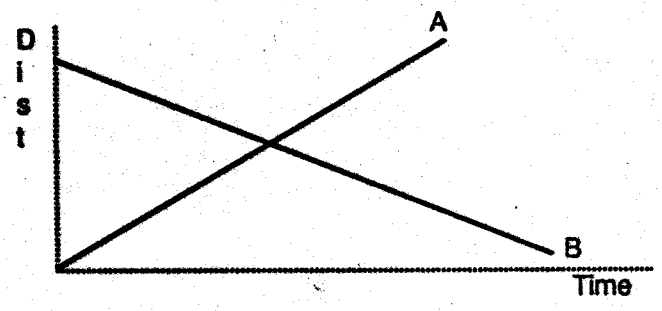
_____

c) What does the intersection mean?

_____

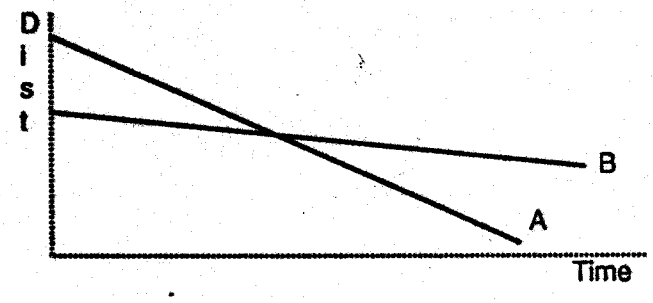
_____

_____



7. a) Which object is moving faster? ____

b) Which object has a negative velocity according to the convention we have established? ____



8. a) Which object is moving faster? _____

b) Which starts ahead? _____
Explain what you mean by"ahead."

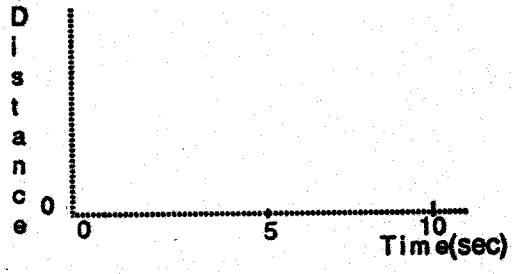
_____

_____

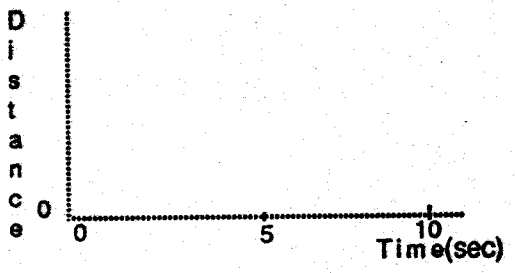
_____

Sketch the distance (position)-time graph corresponding to each of the following descriptions of the motion of an object.

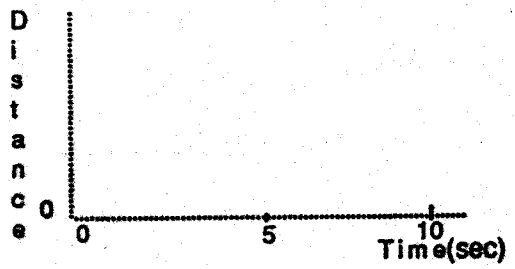
9. The object moves with a steady (constant) velocity away from the origin.



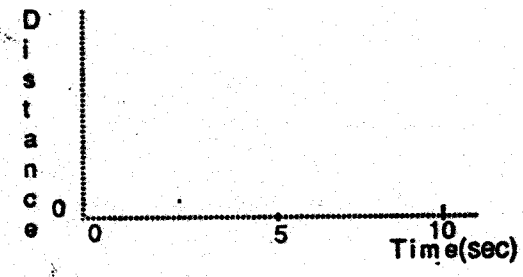
10. The object is standing still.



11. The object moves with a steady (constant) velocity toward the origin for 5 seconds and then stands still for 5 seconds.



12. The object moves with a steady velocity away from the origin for 5 seconds, then reverses direction and moves at the same speed toward the origin for 5 seconds.



13. The object moves away from the origin, starting slowly and speeding up.