

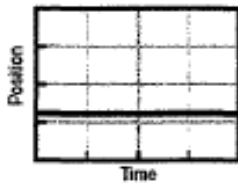
# Motion Detector Lab Pt. 1: “x vs. t” Graphs

For the following, take “moving away from the origin/detector” to be positive and “moving towards the origin/detector” to be negative.

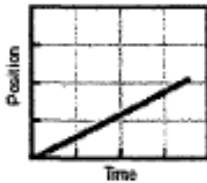
## POSITION–TIME GRAPHS

Answer the following questions in the spaces provided.

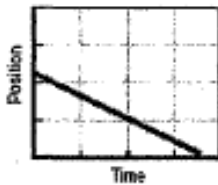
1. What do you do to create a horizontal line on a position–time graph?



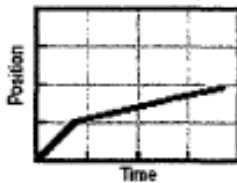
2. How do you walk to create a straight line that slopes up?



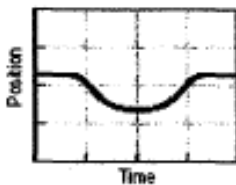
3. How do you walk to create a straight line that slopes down?



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

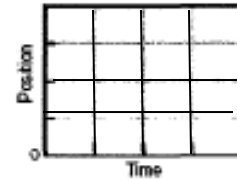


5. How do you walk to create a U-shaped graph?

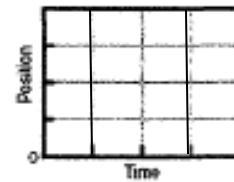


Sketch the position–time graph corresponding to each of the following descriptions of the motion of an object.

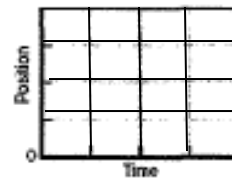
6. The object moves with a steady (constant) velocity away from the origin.



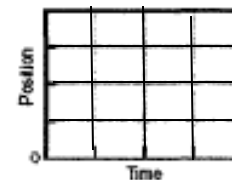
7. The object is standing still.



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



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



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

