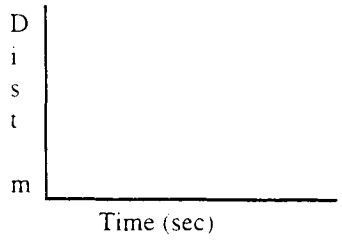
Name_____

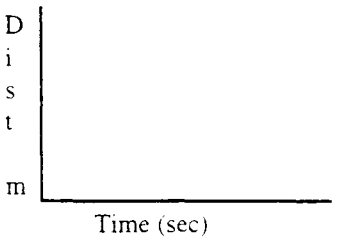
INTERACTIVE LECTURE DEMONSTRATIONS
PREDICTION SHEET--HUMAN MOTION

Directions: Write _____ at the top to record your presence in this class. Follow vour instructor's directions.

Demonstration 1: Sketch below on the left axes your prediction of the distance (position)-time graph for a person moving away from the origin (motion detector) at a steady (constant) velocity. On the other axes sketch your prediction for a person moving toward the origin at a steady (constant) velocity.

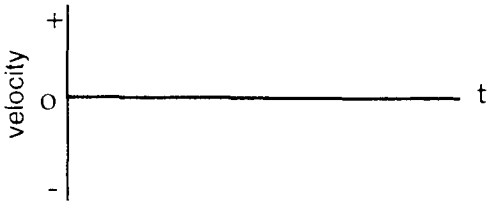


moving away

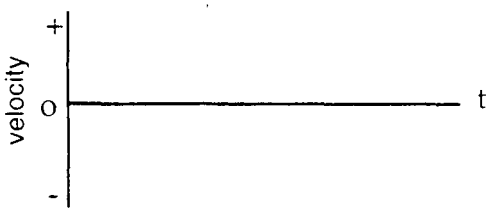


moving toward

Demonstration 2: Sketch on the left axes below your prediction of the **velocity-time** graph for a person moving away from the the orgin (the motion detector) at a steady (constant) velocity. On the other axes sketch your prediction for a person moving toward the orgin at a steady (constant) velocity.

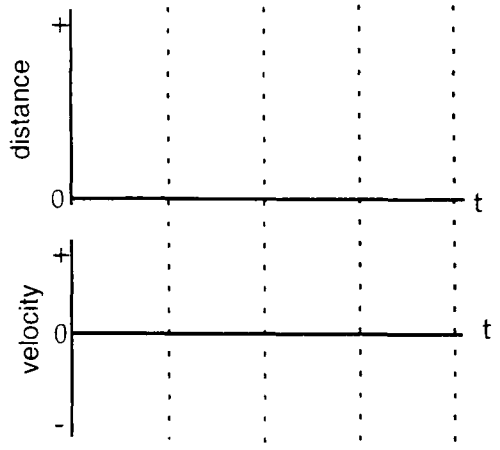


moving away



moving toward

Demonstration 3: Sketch on the axes below your predictions for the distance-time and velocity-time graphs of a person moving away from the motion detector at approximately twice the speed of Demo 1 and Demo 2.



moving away at twice the speed

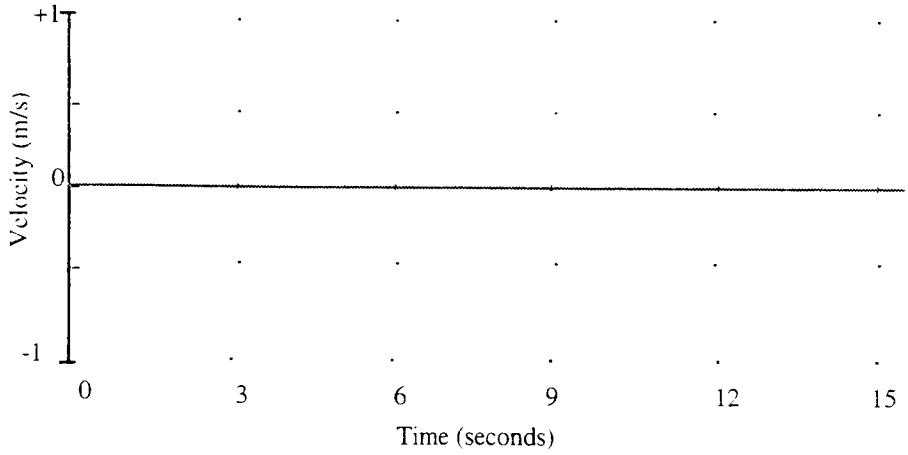
Describe in words how the *distance-time* graph changes when the speed is twice as fast.

Describe in words how the *velocity-time* graph changes when the speed is twice as fast.

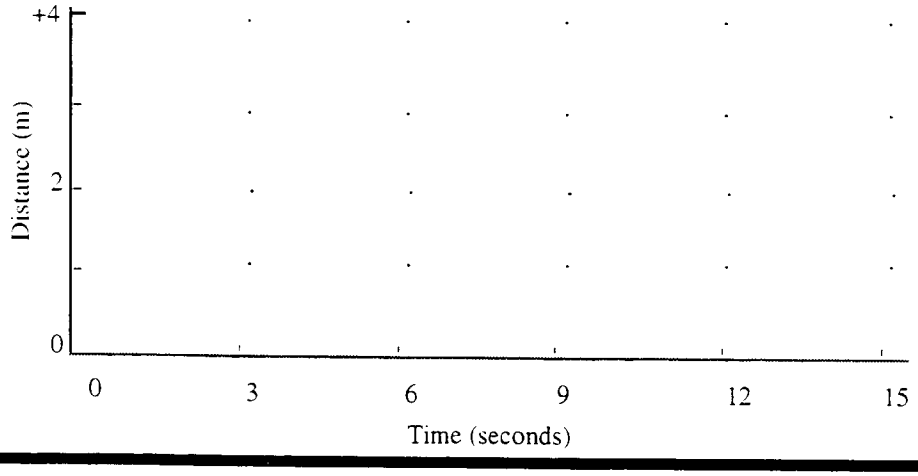
Demonstration 4: Predict a velocity-time graph for a more complicated motion. Using a *dashed line* draw your *prediction* of the velocity graph produced when a person—

- walks away from the detector slowly and steadily for 6 seconds
- then stands still for 6 seconds
- and then walks toward the detector steadily about twice as fast as before

Compare predictions with the people around you and see if you can all agree. Use a solid line to draw in your group prediction.



Predict the distance (position)-time graph for the motion described above. Follow the same procedure described above and do an individual and a group prediction. (Align the distance and velocity graphs correctly in time.)

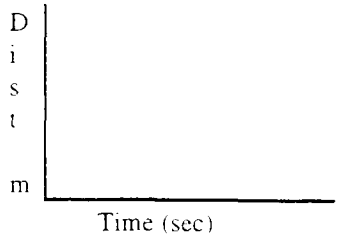


Keep this sheet

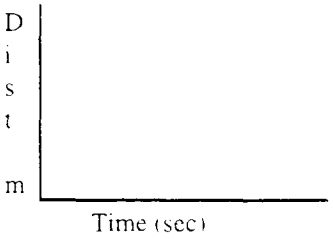
INTERACTIVE LECTURE DEMONSTRATIONS
RESULTS SHEET--HUMAN MOTION

Directions:

Demonstration 1: Sketch below on the left axes your prediction of the distance (position)-time graph for a person moving away from the origin (motion detector) at a steady (constant) velocity. On the other axes sketch your prediction for a person moving toward the origin at a steady (constant) velocity.

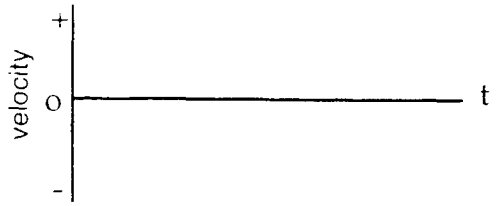


moving away



moving toward

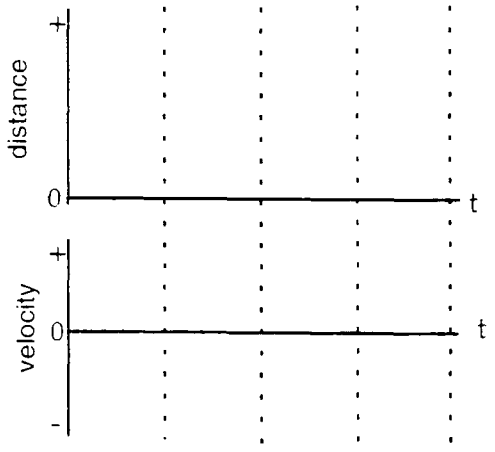
Demonstration 2: Sketch on the left axes below your prediction of the **velocity-time** graph for a person moving away from the the orgin (the motion detector) at a steady (constant) velocity. On the other axes sketch your prediction for a person moving toward the orgin at a steady (constant) velocity.



moving away

moving toward

Demonstration 3: Sketch on the axes below your predictions for the distance-time and velocity-time graphs of a person moving away from the motion detector at approximately twice the speed of Demo 1 and Demo 2.



moving away at twice the speed

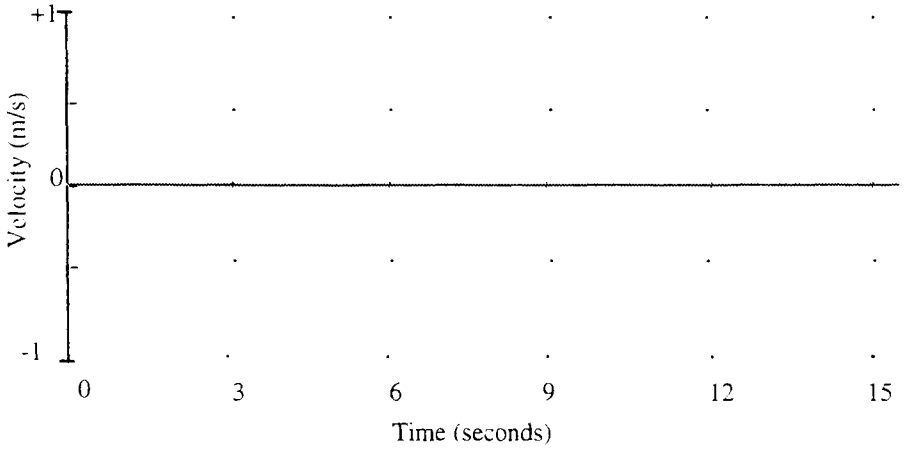
Describe in words how the **distance-time** graph changes when the speed is twice as fast.

Describe in words how the **velocity-time** graph changes when the speed is twice as fast.

Demonstration 4: Predict a velocity-time graph for a more complicated motion. Using a *dashed line* draw your *prediction* of the velocity graph produced when a person—

- walks away from the detector slowly and steadily for 6 seconds
- then stands still for 6 seconds
- and then walks toward the detector steadily about twice as fast as before

Compare predictions with the people around you and see if you can all agree. Use a solid line to draw in your group prediction.



Predict the distance (position)-time graph for the motion described above. Follow the same procedure described above and do an individual and a group prediction. (Align the distance and velocity graphs correctly in time.)