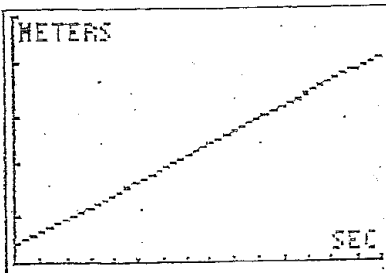# Motion Sensor Lab

Name:_____

8th Grade Math

Instructions to graph using the motion sensors and graphing calculators are listed below:

1. Turn your calculator on and clear the screen.
2. Connect the motion sensor using the cord provided.
3. Press the "PRGM" button located in the upper middle portion of the buttons.
4. Select the "RANGER" program by pressing "ENTER" two times.
5. When the Texas Instruments screen appears, press "ENTER" again.
6. On the Main Menu, press ENTER to select "SETUP/SAMPLE."
7. Press the "UP arrow" to move the triangular curser up to "START NOW" and press "ENTER."
8. Point your motion sensor at the target and press "ENTER" to begin.
9. After the 15 seconds is up, your graph will automatically appear.
10. To make another graph, press "ENTER" and select #3 "REPEAT SAMPLE."
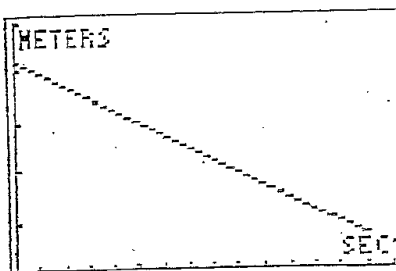
Walk in such a way to create each of the graphs shown. Describe what you had to do in order to create the graph.
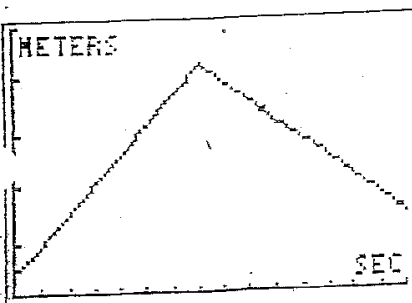
1)

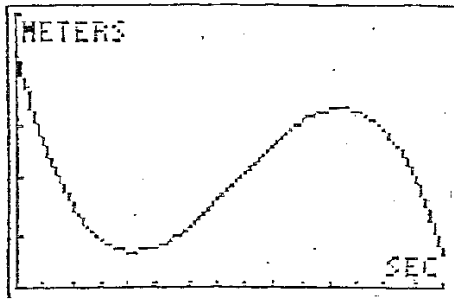

Description of walk

2)

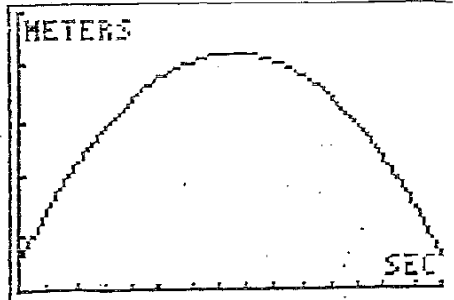Description of walk

3)

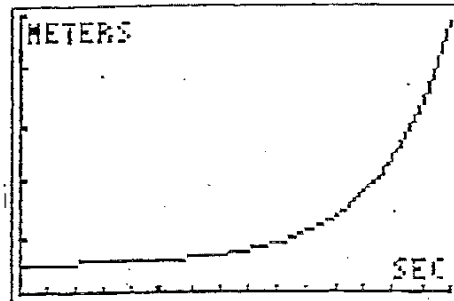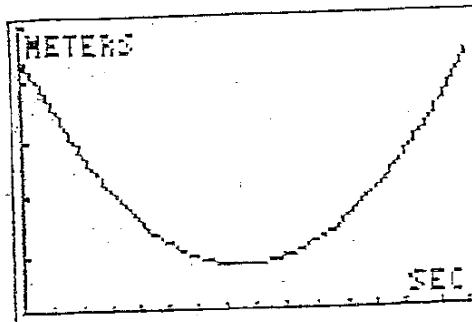Description of walk
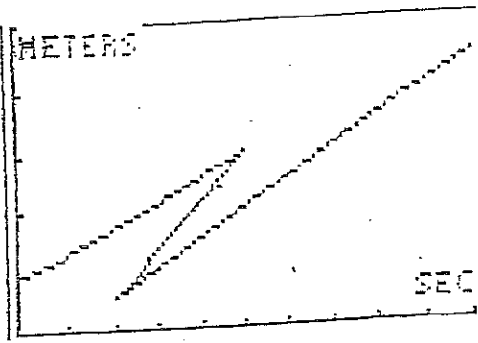
4)

Description of walk

5)

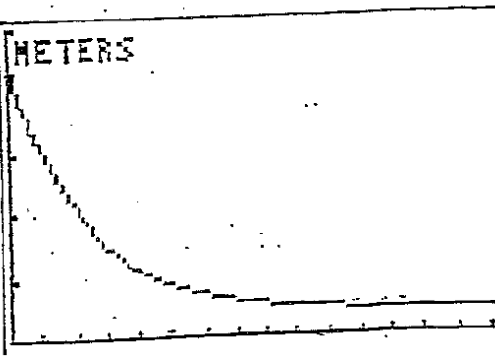Description of walk

6)

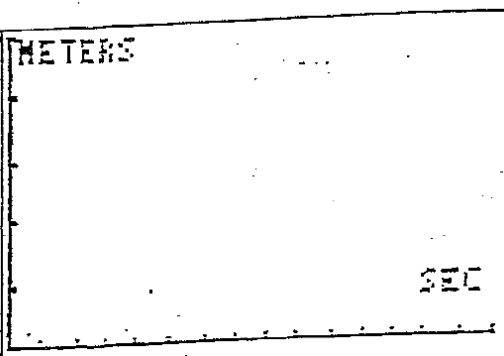Description of walk

7)

Description of walk

8)

METERS

SEC

Description of walk

9)

METERS

Description of walk

10)

METERS

SEC

Description of walk

Draw in your first initial and try to walk it!

Follow up Questions

1. Which of the above graphs are functions?

2. Which variable is independent and which is dependent?

3. What is the Doman and Range? Look at the x & y hash marks on one of your graphs to help.

4. Are there any letters that are impossible to make? Which ones? If there are, why are they impossible to make?

5. What happens to the slope (steepness) of the line when you...

   walk fast?

   Walk slow?

   Stop?

   Reverse directions?

   Walk towards the wall?

   Walk away from the wall?