Match Me Plus

Student Activity

Name _____

Class _____

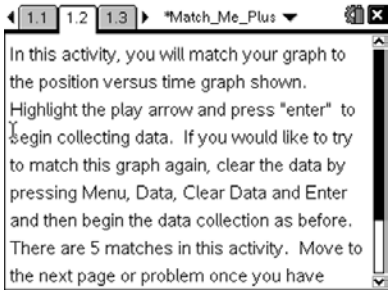
Activity Overview: Piecewise-defined and other functions

Match a position versus time graph shown on the TI-Nspire™ screen then write the function that describes the walk.

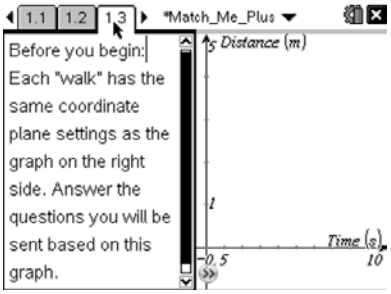
Lesson Materials:

- Match_Me_Plus_Student.pdf
- Match_Me_Plus.tns
- CBR2™

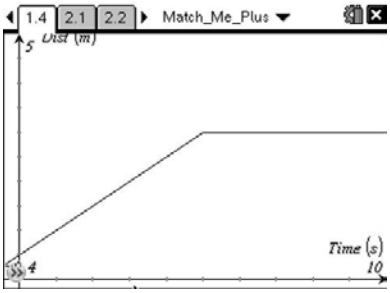
Problem 1



Step 1 Open the file Match_Me_Plus on your TI-Nspire™ handheld. Read page 1.2 then move to page 1.3

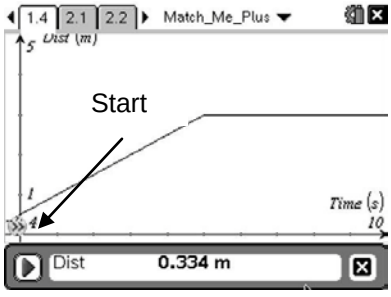


Step 2 Answer the questions your teacher sends you in Quick Poll.



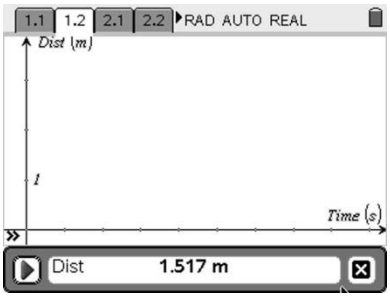
Step 3 Move to page 1.4. After the graph is displayed answer the questions your teacher sends you in Quick Poll BEFORE walking the graph. The screen to the right may not be the graph that you see on your handheld.

Step 4: To match the graph, aim the CBR 2™ at the wall and walk toward or away from the wall to match the graph. Use your knowledge of distance, velocity, and acceleration and their interrelationships to match the graph. Highlight the play arrow and press enter to start sampling.



Step 5: If you need to try again, press enter.

Step 6: Sketch the graph on the screen in the figure to the right. Then, sketch your best attempt of walking the graph.



Step 7: Write the piecewise-defined function that describes the complete walk.

Problems 2-5

There are 4 matches in this activity. Once you have matched the first graph, proceed to the other graphs and match them. Answer the following questions BEFORE walking each graph.

- How many segments are there to this walk?
- How far from the CBR 2™ must you start for the first segment? The second segment? The third segment, if applicable.
- How many seconds do you walk for the each segment?
- How far away from the CBR 2™ are you at the end of the each segment?
- What is the piecewise-defined equation for the walk?

Reflection

- Which graph was the most challenging to match? Explain why.

Extension

- Insert a new page, enter your own function, and try to match it.