

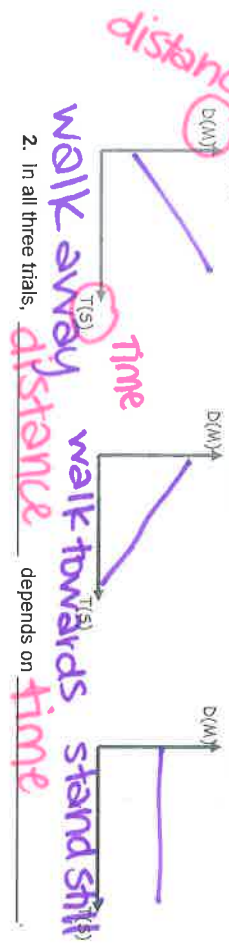
EQ: How does the CBR make distance-time graphs?

CBR Activity

Name _____
Period _____ Date _____

Activity 1: Which Way?

1. Sketch the graphs you saw in each Trial.



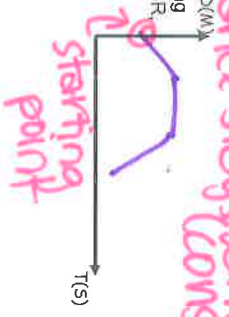
2. In all three trials, distance depends on time.

3. Why does the plot of Trial 1 go up as it moves from left to right? (Be sure to use the words "time" and "distance" in your explanation.)
As time increases, distance increases.

4. Why does the plot of Trial 2 appear to be moving downward? (Be sure to use the words "time" and "distance" in your explanation.)
As time increases, distance decreases.

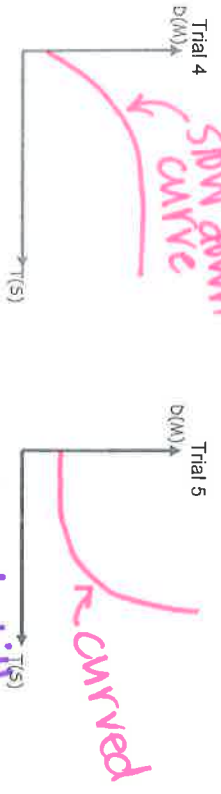
5. Why is the plot in Trial 3 in flat line? (Be sure to use the words "time" and "distance" in your explanation.)
As time increases, distance stays same (constant).

6. If you combined the three trials into one trial by first walking away, then standing still and finally walking toward the CBR, sketch what the resulting plot would look like.



Activity 2: Slow Down-Speed Up

7. Sketch what the graph showed:



move away
slow down,
stand still

stand still,
move away
speed up.

slow \rightarrow flatter

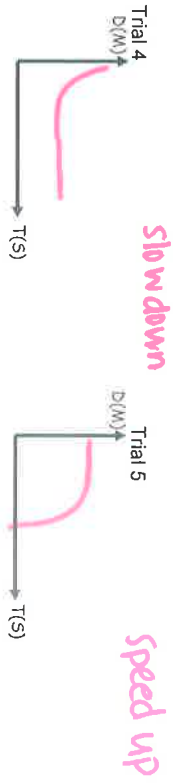
fast \rightarrow steeper

8. Each plot in the two trials contains a section that is level or flat in appearance. What was the walker doing at that time?
standing still

9. In Trial 4, the walker began moving at a constant rate. What did you notice about the plot during this time?
straight line going up.

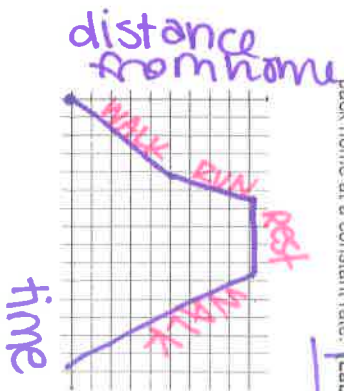
10. Summarize the effects that speeding up, slowing down, or moving at a constant rate while walking away from the CBR have on the shape of a Distance-Time plot of the motion.
speed up: moving constant rate
slow down: moving constant rate

11. What would Trials 4 and 5 have looked like if the motion had been toward rather than away from the CBR? Sketch your predictions below.

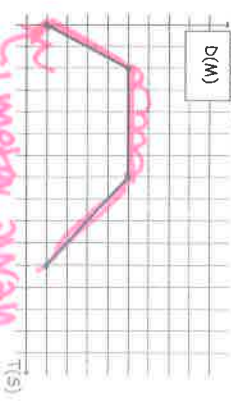


Now try these two problems:

A) Draw a graph that represents the following situation: Stacy walks at a constant rate from home to the bus stop. With a quarter of the distance left, she sees the bus coming, so she runs at a constant rate to catch it. She gets to the bus stop, but misses the bus. After a short rest, Stacy turns around and walks back home at a constant rate. (Label Axes)



B) Write a situation that would generate the graph shown below.



Catherine Victor starts 1 meter away from the CBR. She walks away from the CBR for 3 seconds, stops for 5 seconds, then walks back for 4 seconds.
slowly.

QT II