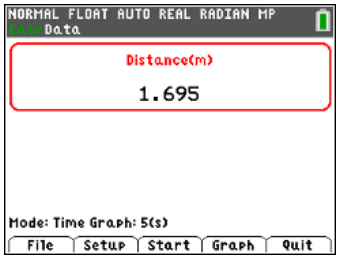
QUICK START GUIDE

Distance/Rate/Time Using the CBR™ 2 Motion Sensor and TI-84 Plus CE Graphing Calculator

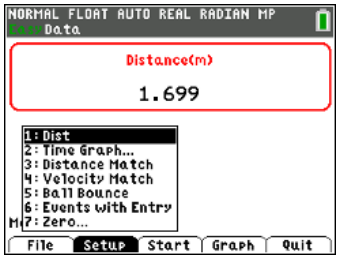
Connect the graphing calculator and the CBR™ 2 motion sensor:

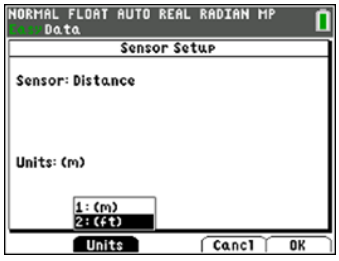
- Plug the CBR™ 2 sensor into the USB port on the calculator.
- The Vernier EasyData® App will automatically display (Note: If the EasyData App does not launch, select **apps > EasyData**.)



Change the measurement units to feet, if desired:

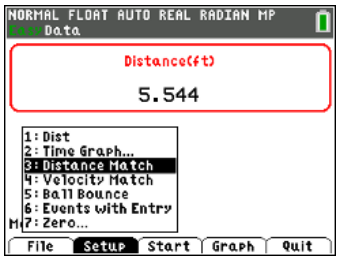
- Press **[window]** to access the **Setup** softkey.
- Select **1: Dist**
- Press **[window]** to access the **Units** softkey.
- Select **2: (ft)**
- Press **[graph]** to select the **OK** softkey.

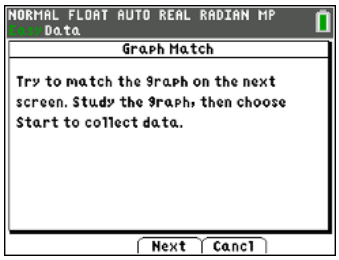




Distance Match:

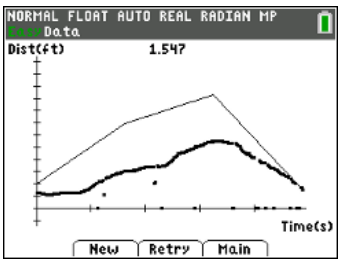
- Press **[window]** to access the **Setup** softkey.
- Select **3: Distance Match**
- Press **[zoom]** to access the **Start** softkey and view the directions.
- Press **[zoom]** to access the **Next** softkey.





Match the Graph:

In this experiment, we are collecting data to try and match the graph. You will point the CBR™ 2 at a wall, and then move back and forth until the graph matches the Distance Match graph as closely as possible.



- First, answer these questions:
  - What does the y-intercept represent physically?
  - In relation to the wall, where do you need to start to match the graph?
  - How fast do you need to walk each segment?
  - Where do you need to finish?
  - Is there a time when you should stand still? If so, when does that time start and end?
- Select **[zoom]** to access the **Start** softkey, and try to match the graph.
- To retry the experiment, select **[zoom]** to access the **Retry** softkey. This will override the original data collection.

Display a new position match:

- Press **[window]** to access the **New** softkey.
- Press **[zoom]** to access the **Start** softkey, and try to match the new graph.

Follow-up questions:

- How well did your walk match the graph?
- What would you need to do differently to better match the graph?
- What is the rate of change for each segment?
- What does the rate of change represent?
- What are the equations of the various segments?
- What are the domains and ranges of the segments?