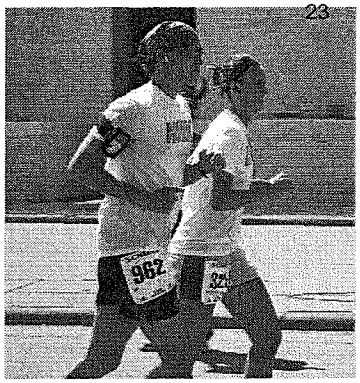


http://www.flickr.com/photos/fargomoorheadcvb/

7.4 Training Day

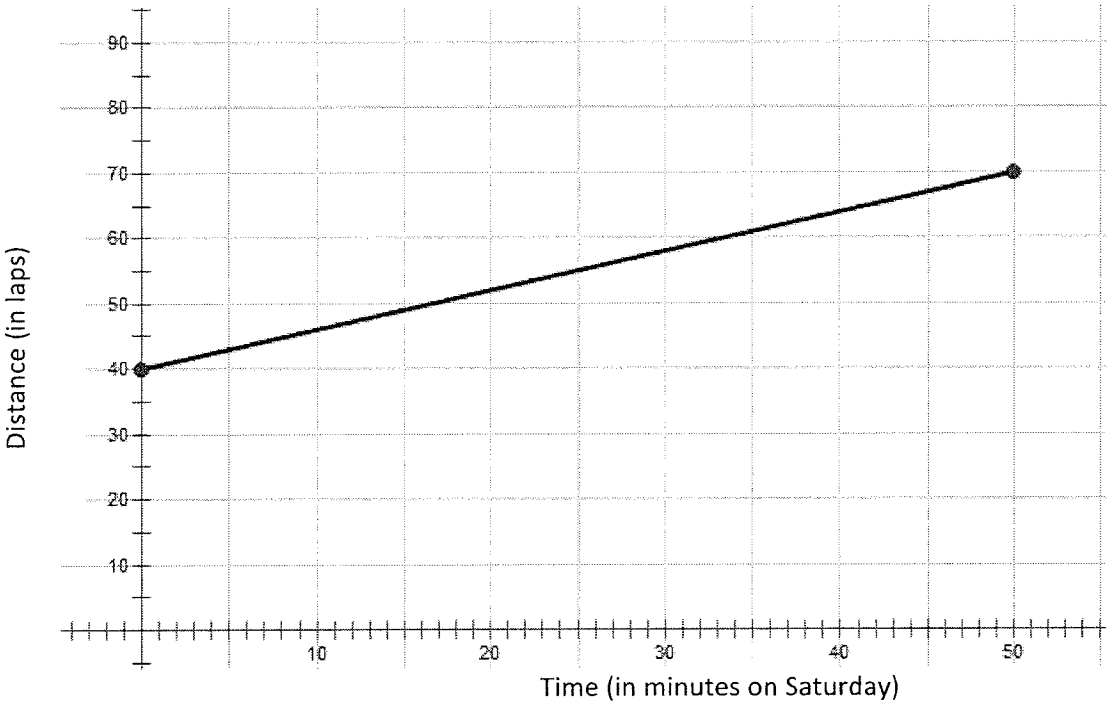
A Develop Understanding Task

Fernando and Mariah are training for six weeks to run in the Salt Lake half- marathon. To train, they run laps around the track at Eastland High School. Since their schedules do not allow them to run together during the week, they each keep a record of the total number of laps they run throughout the week and then always train together on Saturday morning. The following are representations of how each person kept track of the total number of laps that they ran throughout the week plus the number of laps they ran on Saturday.

Fernando's data:

Time (in minutes on Saturday)	0	10	20	30	40	50
Distance (in laps)	60	66	72	78	84	90

Mariah's data:



What observations can be made about the similarities and differences between the two trainers?

1. Write the equation, *m(t),* that models Mariah's distance.

2. Fernando and Mariah both said they ran the same rate during the week when they were training separately. Explain in words how Fernando's equation is similar to Mariah's. Use the sentence frame: The rate of both runners is the same throughout the week, however, Fernando _____.

3. In mathematics, sometimes one function can be used to build another. Write Fernando's equation, *f(t),* by starting with Mariah's equation, *m(t).*

   f(t) =

4. Use the mathematical representations given in this task (table and graph) to model the equation you wrote for number 3. Write in words how you would explain this new function to your class.