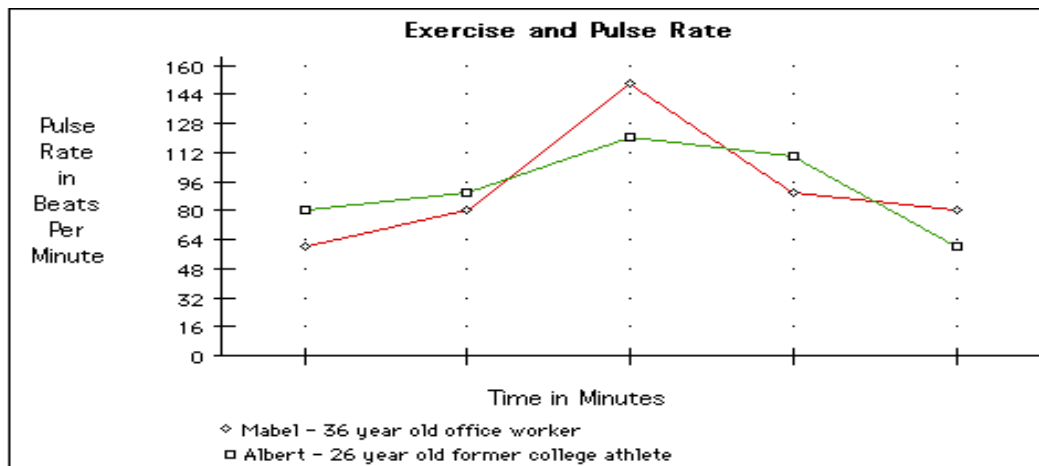


## 15. UNDERSTANDING AND INTERPRETING LINE GRAPHS



Graph from: Twin Groves School (<http://www.twingroves.district96.k12.il.us/ScienceInternet/ChartsGraphs.html>)

### HOW DO I READ A LINE GRAPH?

- **Look at the title.** This graph is about how exercise time affects pulse rates.
- **Figure out what is being measured and in what units.** This graph measures pulse rate in beats per minute on its vertical line, known as the *y-axis*, and exercise time in minutes on its horizontal line, known as the *x-axis*.
- **Determine what is being affected.** In this case, pulse rate is being affected by the amount of time that people are exercising.
  - Pulse rate is the *dependent variable* in this graph. Pulse rate depends on / is affected by / changes with the amount of exercise time.
  - Exercise time is not affected by pulse rate; it is the *independent variable* in this graph. The amount of time that people exercise does not depend on / is independent from their pulse rate.
- **Decide what the different lines represent** if there is more than one line on the graph. In this case, the pulse rate of Mabel (a 36-year-old office worker) is being compared to that of Albert (a 26-year-old former college athlete).

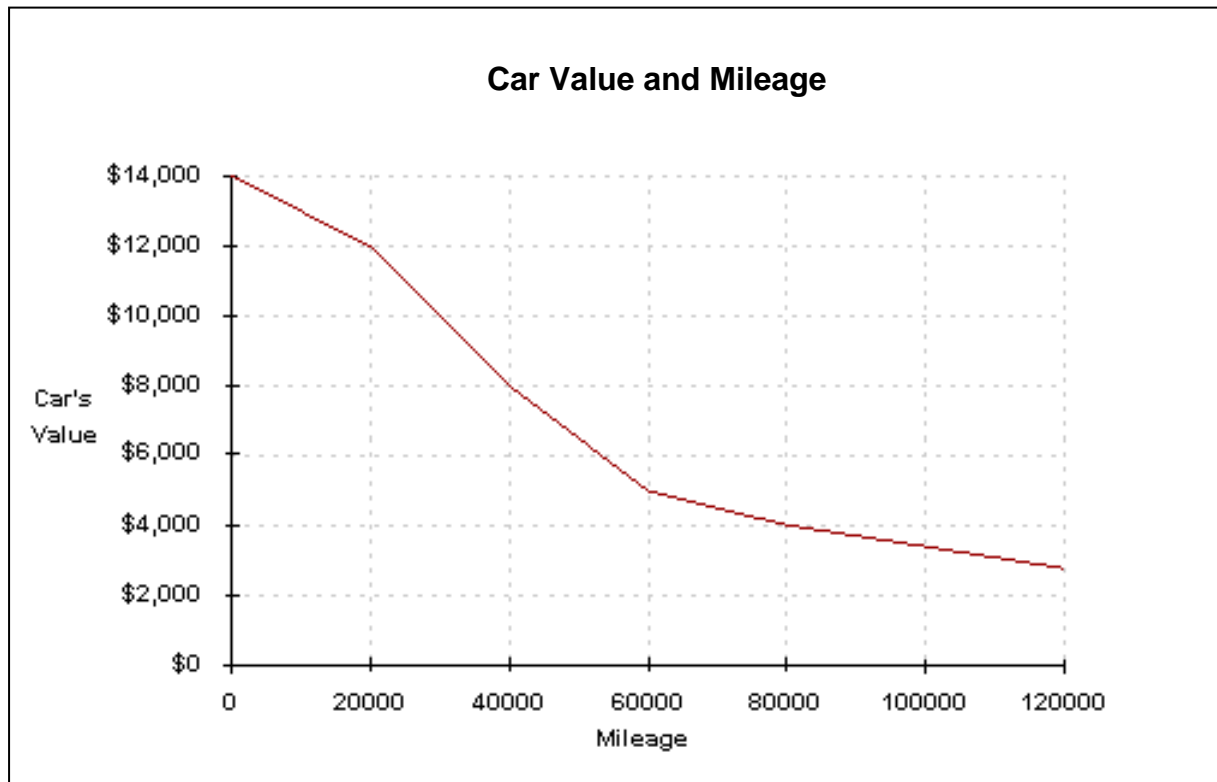
### WHAT TERMS CAN I USE TO EXPLAIN THIS GRAPH?

- Mabel and Albert's pulse rates *increased/rose* for the first three minutes of exercise. (Heart rates went up.)
- Their pulse rates *peaked/reached a peak* at three minutes. (Heart rates were at their highest level.)
- Their pulse rates then *fell / decreased / declined* for the remaining two minutes. (Their pulse rates went down.)
- Mabel's pulse *increased* and *peaked noticeably more* than Albert's. (Her pulse rate went clearly higher than Albert's.)

**EXERCISE** (Have a tutor help you with this exercise.)

Follow the directions from the previous page about “How to Read Line Graphs.”

Use the information from the graph below to answer the questions.



Graph from: Math League (<http://www.mathleague.com/help/data/data.htm>)

1. What is this graph about? What is being measured on the *x-axis* of the graph and what is being measured on the *y-axis*?
2. Does a car's mileage affect its value, or does a car's value affect its mileage?
3. What is a car's value when it has a mileage of 20000 miles? When it has 120000 miles?
4. What happens to a car's value over time as its mileage increases?