



Introduction

SENSORS AND SCATTERPLOTS

BODY MASS INDEX (BMI)

- BMI is a number calculated from your weight and height.

$$\text{BMI} = \frac{\text{weight, kg}}{(\text{height, m})^2}$$



- The number is used by medical professionals to screen for health problems.

Source: http://www.cdc.gov/healthyweight/assessing/bmi/childrens_bmi/about_childrens_bmi.html

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BLOOD PRESSURE (BP)

- Each time your heart beats, it pumps blood into your arteries.
- Blood pressure is the force of blood pushing against the walls of the arteries as your heart pumps blood.
- Written as a ratio:
 - systolic pressure (when your heart beats)
 - diastolic pressure (when your heart rests)
- 110/70 mmHg is read 110 over 70 millimeters of mercury.
- BP used to screen for health problems.

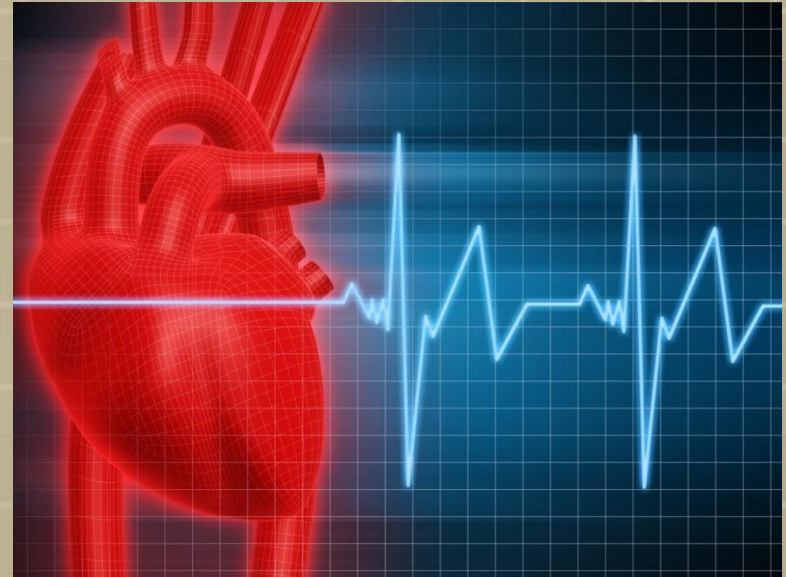


Source: http://www.heart.org/HEARTORG/Conditions/HighBloodPressure/AboutHighBloodPressure/Understanding-Blood-Pressure-Readings_UCM_301764_Article.jsp/

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PULSE RATE

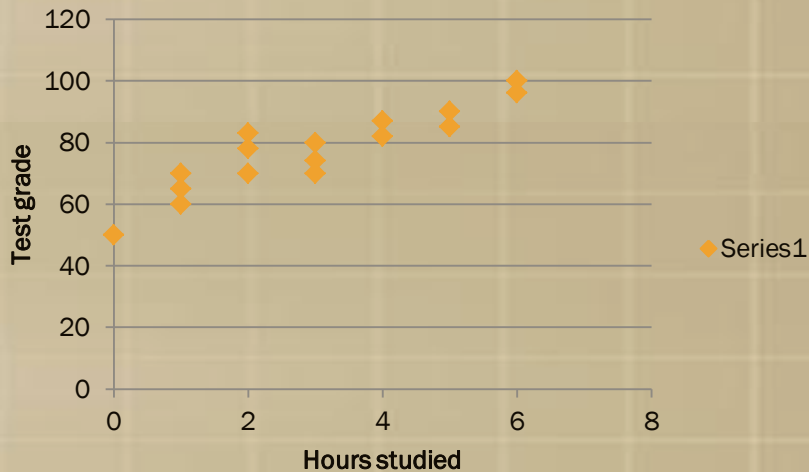
- Your pulse rate is the number of times your heart beats per minute.
- As with BMI and BP, your pulse rate is used to screen for health problems.



SCATTERPLOT RELATIONSHIPS

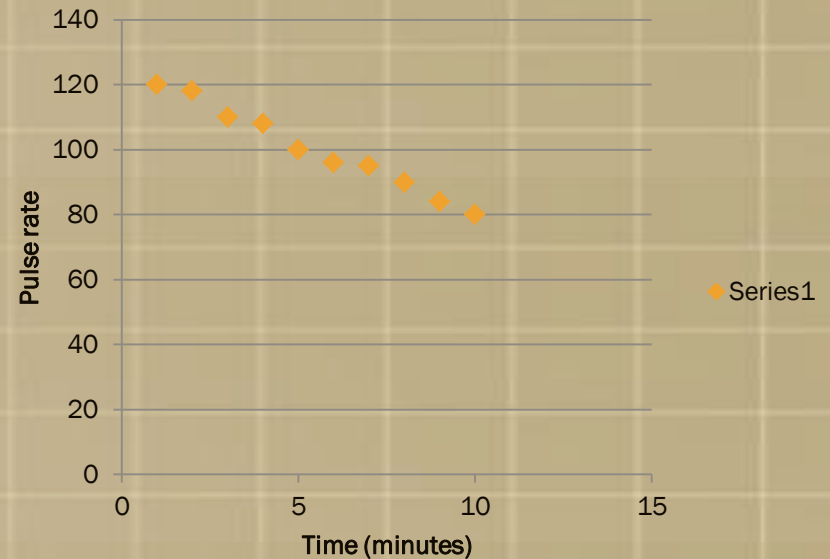
Positive trend/correlation

of Hours Studied versus Test Grade



Negative trend/correlation

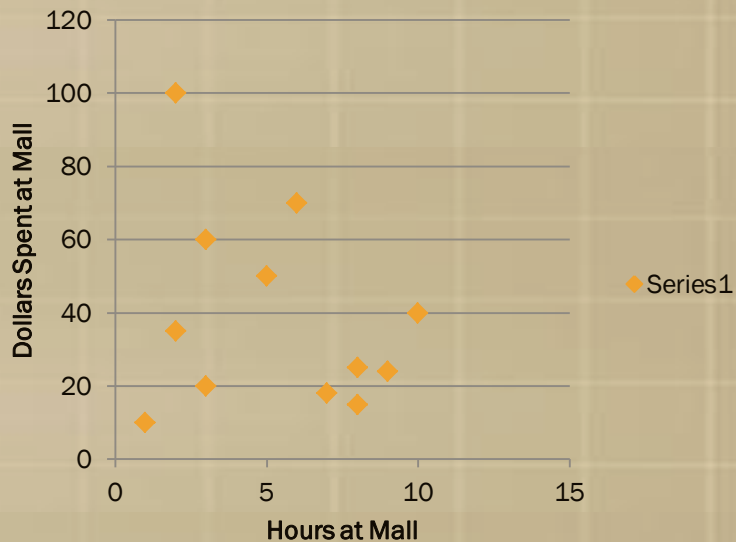
Pulse Rate After Exercise



SCATTERPLOT RELATIONSHIPS (cont'd)

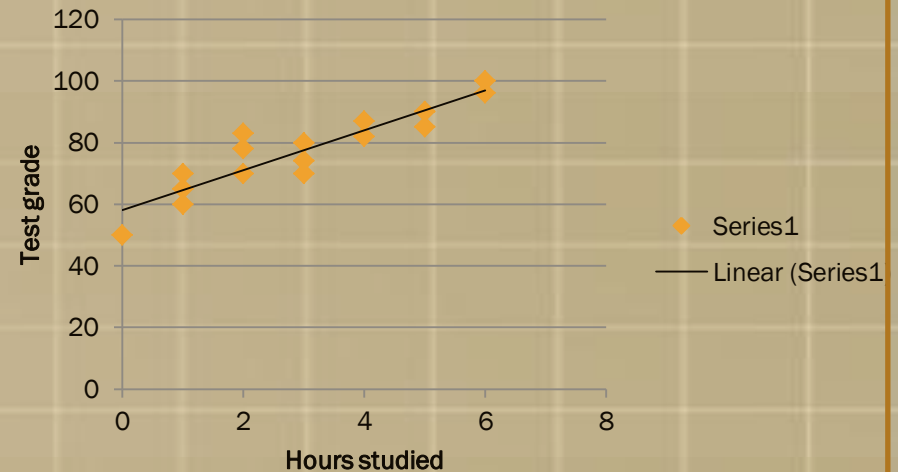
No trend/correlation

Money Spent at Mall



Line of best fit

of Hours Studied versus Test Grade



LET'S CONSIDER SOME RELATIONSHIPS

- Do you think that there is a relationship between:
 - BP and BMI?
 - Pulse rate and BP?
 - BMI and pulse?
- Do you think there is a difference in the relationships between the male and female data?

