## Quizzes...


2) On a post-it note, write your height (in feet and inches) and your shoe size. (Say if it's a men's or women's size) You do NOT need to put your name. Stick your post-it on the back whiteboard.

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## Scatter Plot - HW \% vs. Grades

- Do you think there is a relationship between the \% of homework assignments and your grade in the class?


- Scatter Plot - Shows the relationship between 2
- Types of Correlations
- Positive - the dots mostly increase from left to right
- Negative - the dots mostly decrease from left to right
- No correlation - there is no pattern


38 The graphs show the student enroliment at a school from 2004 through 2011 . Which graph
best thow a a negative correlation between the number of students and the years from 2004
through 2011


## STRONG vs. WEAK Correlation...

- Besides positive/negative, you can also judge a scatter plot based on how strong the correlation is.


## What kind of correlation would you expect?

- height vs shoe size
- Amount of food you have eaten and how hungry you are
- Amount of time studying vs. test grade
- \# of hours of sleep and GPA
- Days left in school in the springtime and temperature outside
- \# of letters in your first name and \# of letters in your last name



## Linear vs. Nonlinear correlation





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## Clusters and Outliers

- Cluster - a bunch of points grouped together indicates common values
- Outliers - values that are far away from the general pattern



Is there a relationship between
height and shoe size???

- To investigate this question, you are going to collect some data
- We will do separate data for guys and girls - only collect data for your group
STEPS

1) Find out each guy's or girl's height in inches and shoe size and put the results in a table
2) On graph paper, create a graph where the height is the $x$-axis and the shoe size is the $y$-axis
3) Decide on an appropriate scale for both axes that will show the data. It looks best if your data "fills up" the entire graphing area.
4) Plot each person as a point in your graph.
5) Make some observations about the data and be prepared to share them.

## Line of Best Fit

## Line of Best Fit Application

- http://illuminations.nctm.org/Activity.aspx?id=4186
- A line that goes through the middle of the data
- Should have about the same number of dots above and below it


41 A group of students each measured the growth of a group of plants at different ages. The results are shown in the scatterplot below.


Which conclusion about the growth rate of the group of plants is best supported by the data?
A The plants grew about 2 inches per month.
B The plants grew about 3 inches per month.
C The plants grew about 4 inches per month.
D The plants grew about 6 inches per month.



## ASSIGNMENT

- Lines of Best Fit Worksheet


