

# Fitting a Line to Data



**CHAPTER 5 SECTION 4**

# Best-Fitting Line



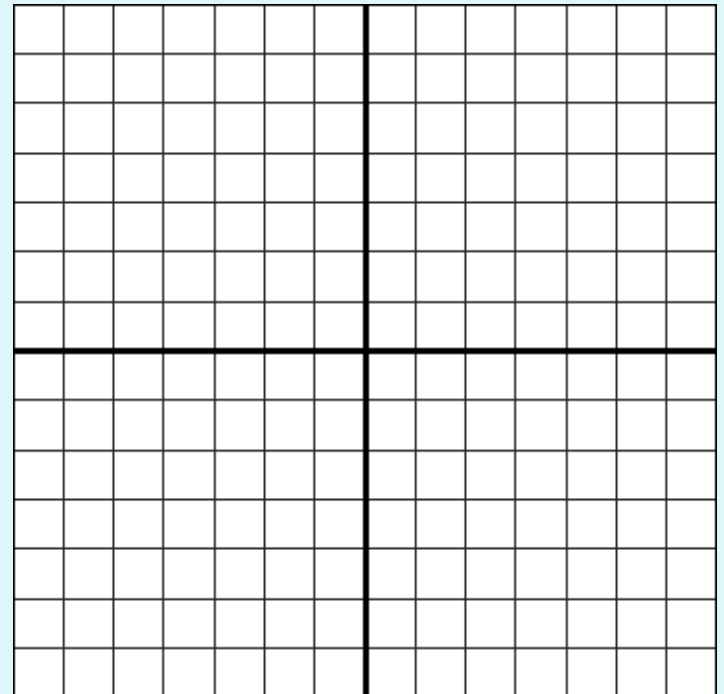
- Best-Fitting Line- a line that best fits that data.
- Steps for Drawing a Line of Best Fit:
  - Plot all the data points
  - Draw a line through the data with the same amount of points above and below the line
  - Pick two points that are on the line
  - Find slope
  - Use one the of the points to find b
  - Write equation in slope-intercept form

# Example:



1. Plot Data
2. Draw line of best fit
3. Pick two points on the line
4. Find slope
5. Find  $b$  using one of the points
6. Write equation

X (Forearm Length)	Y (Foot Length)
22	24
20	19
24	24
21	23
25	23
18	18
20	21



# Correlation



- **Positive Correlation**

- y increases as x increases

- **Negative Correlation**

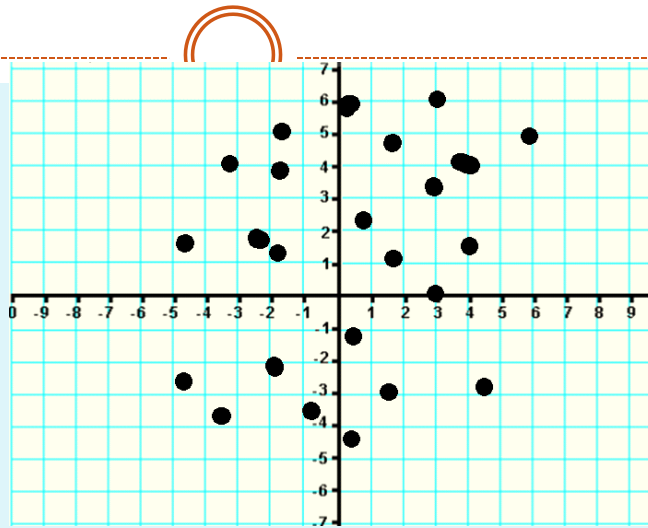
- y decreases as x increases

- **No Correlation**

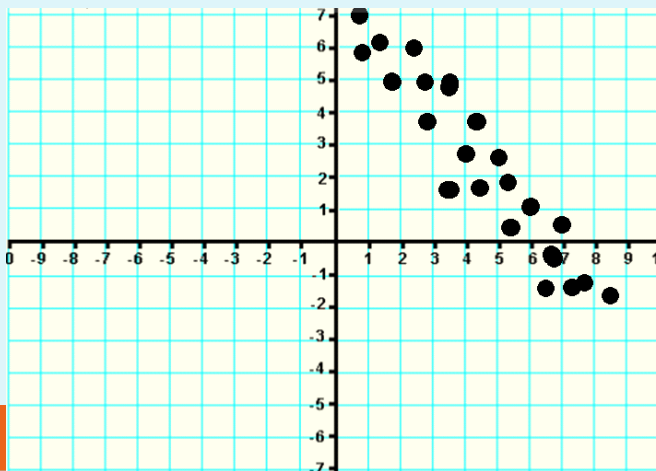
- If the points show no linear pattern

# Correlation

No Correlation



Negative  
Correlation



Positive  
Correlation

