HOMEWORK:

Study

Study

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Test Tomorrow!!!!

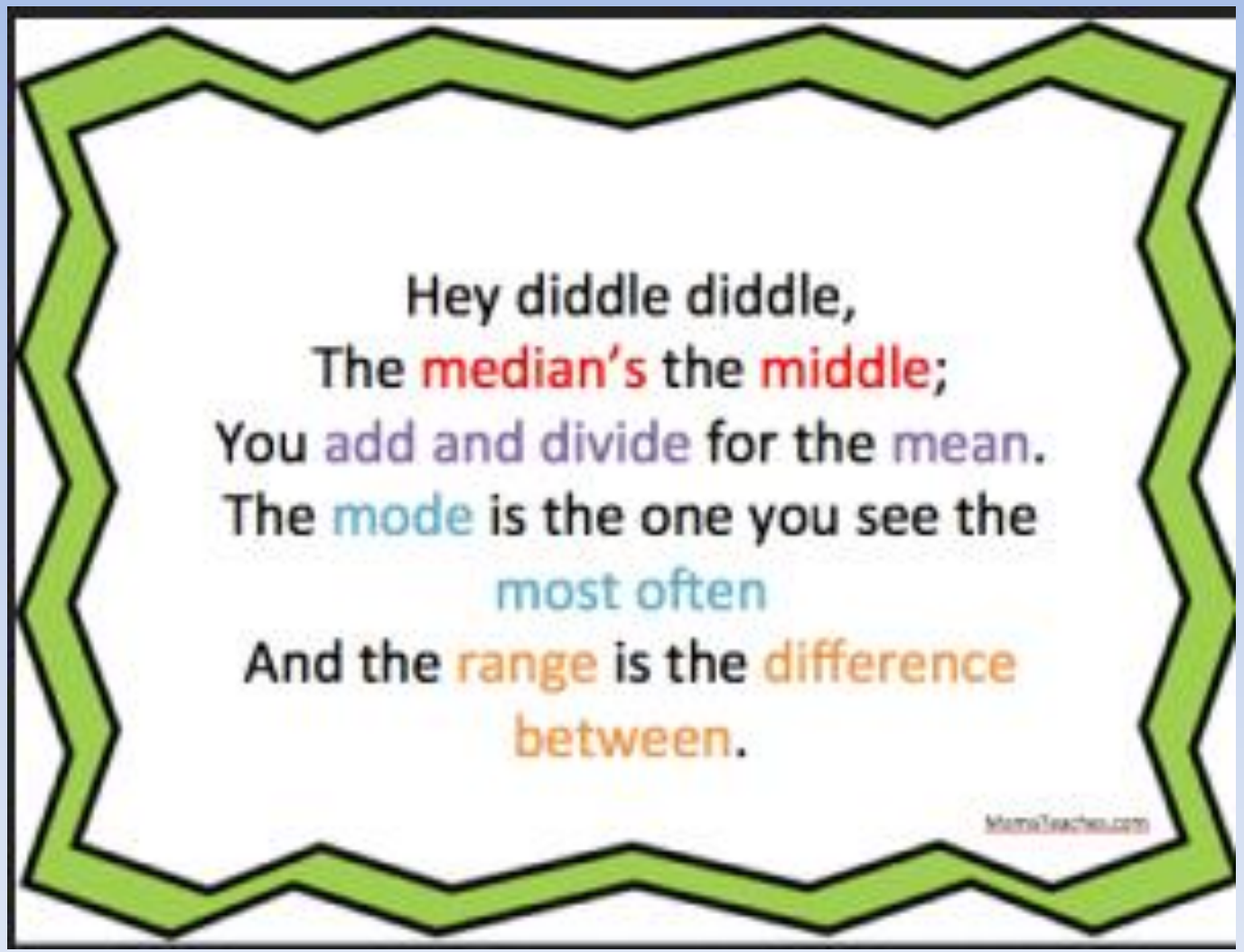
UNIT 9 Test Review

OBJECCTIVES

- Students will calculate central tendency
- Students will interpret data displayed in graphs
- Students will identify independent and dependent variables
- Students will determine the type of correlation

Keep Track Of Your Points!

Mean, Median, Mode and Range!



How to Find the Mean

The mean is the **average** of the numbers.

It is easy to calculate: **add up** all the numbers, then **divide by how many** numbers there are.

In other words it is the **sum** divided by the **count**.

Example 1: What is the Mean of these numbers?

6, 11, 7

- Add the numbers: **6 + 11 + 7 = 24**
- Divide by *how many* numbers (there are 3 numbers): **24 / 3 = 8**

The Mean is 8

MEDIAN: THE MIDDLE!

- The middle number in the data set!

Ages of Patients at Clinic								
3	3	3	7	12	15	17	24	79

- If there is an even number, find the average of the two in the middle.
- **1 2 3 5 5 6**

How to Find the Mode or Modal Value

The mode is simply the number which appears **most often**.

Finding the Mode

To find the mode, or modal value, first put the numbers **in order**, then count how many of each number. A number that appears **most often** is the **mode**.

Example:

3, 7, 5, 13, 20, 23, 39, 23, 40, 23, 14, 12, 56, 23, 29

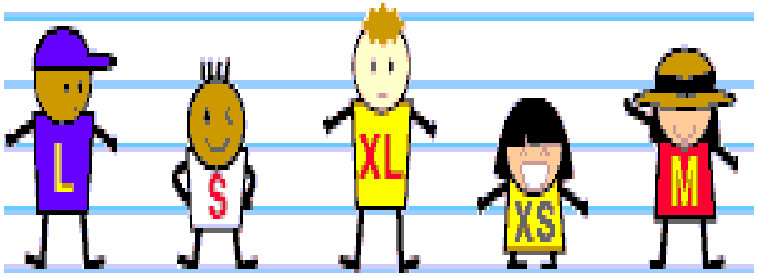
In order these numbers are:

3, 5, 7, 12, 13, 14, 20, **23, 23, 23, 23**, 29, 39, 40, 56

This makes it easy to see which numbers appear **most often**.

In this case the mode is **23**.

The Range of a Set of Data



Problem: Cheryl took 7 math tests in one marking period. What is the range of her test scores?

89, 73, 84, 91, 87, 77, 94

Solution: Ordering the test scores from least to greatest, we get:

73, 77, 84, 87, 89, 91, 94

highest - lowest = 94 - 73 = 21

Answer: The range of these test scores is 21 points.

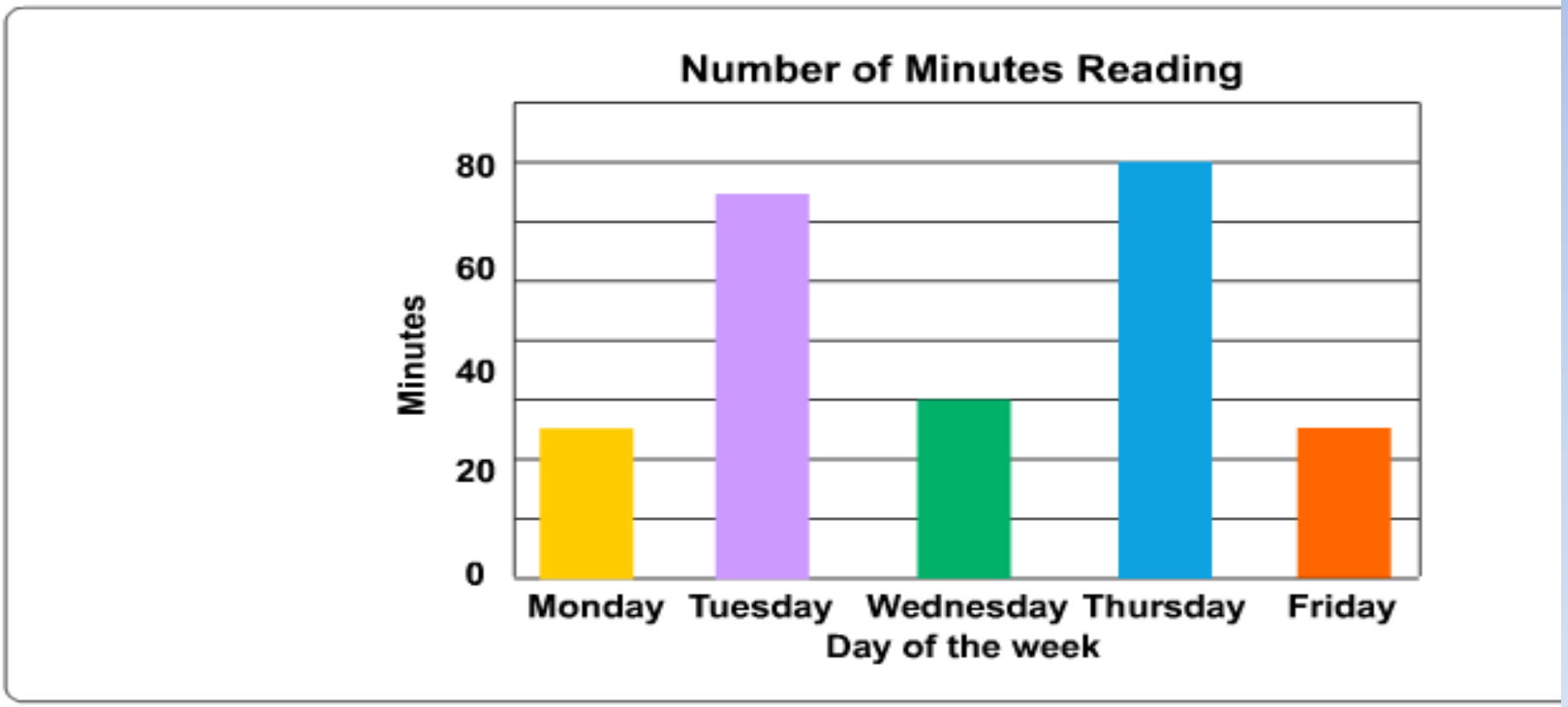
Definition: The **range** of a set of data is the difference between the highest and lowest values in the set.

How Many Points Do You Wager?

- Find the MEAN, MEDIAN, MODE and RANGE of this set of data!
- 19 13 15 13 12 11 9 18 18 13 17

Mean_____
Median_____
Mode_____
Range_____

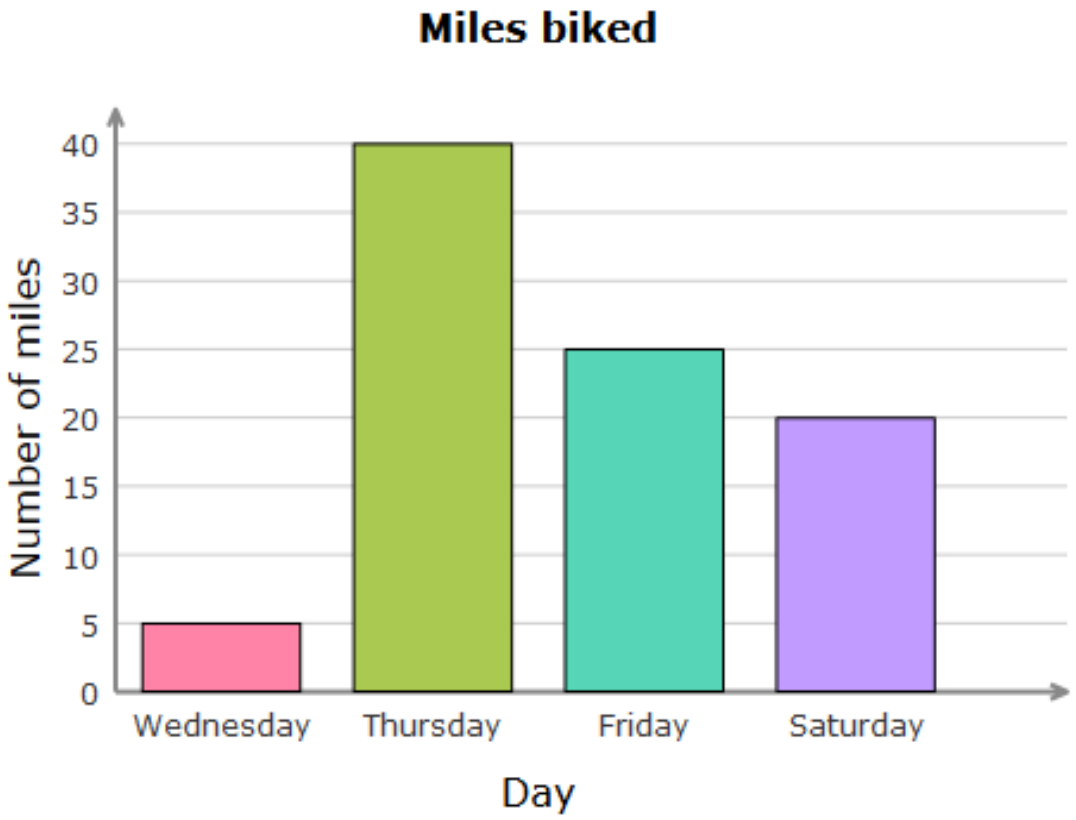
BAR GRAPH



Bar graph
Compares data that are countable

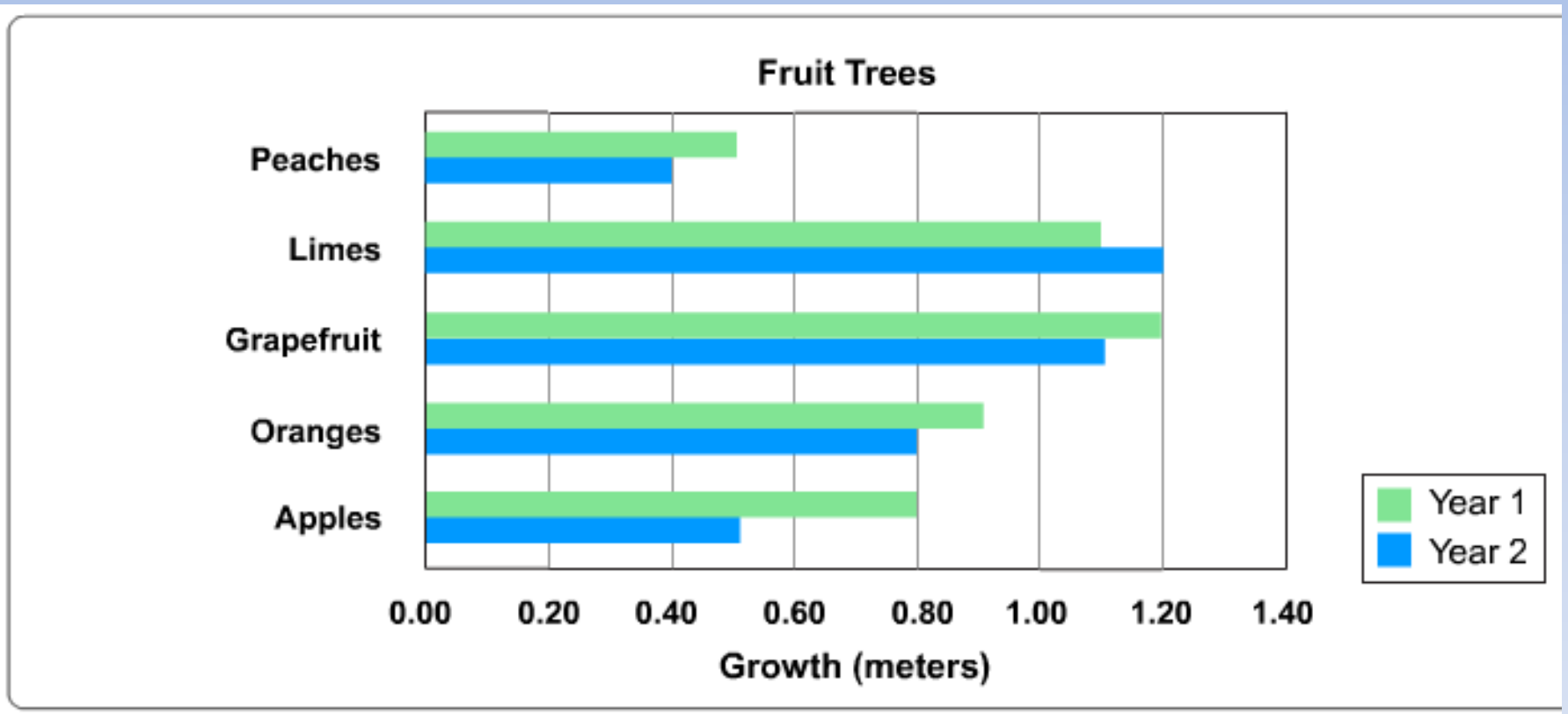
200 Points

Ron kept a written log of how many miles he biked during the past 4 days.



On which day did Ron bike the fewest miles?

Double bar graph



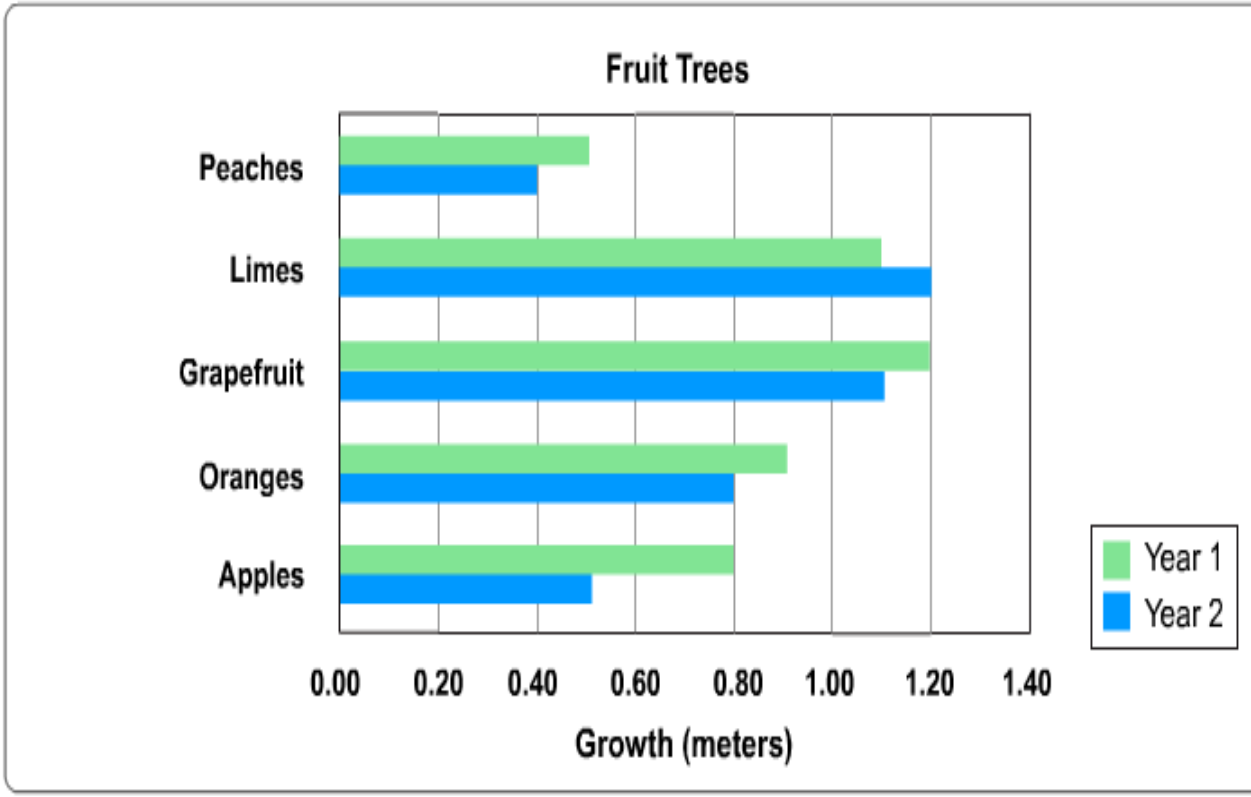
Double bar graph

Compares two sets of data that are countable in one graph

100 Points

Which fruit tree had the biggest increase in growth from year 1 to year 2

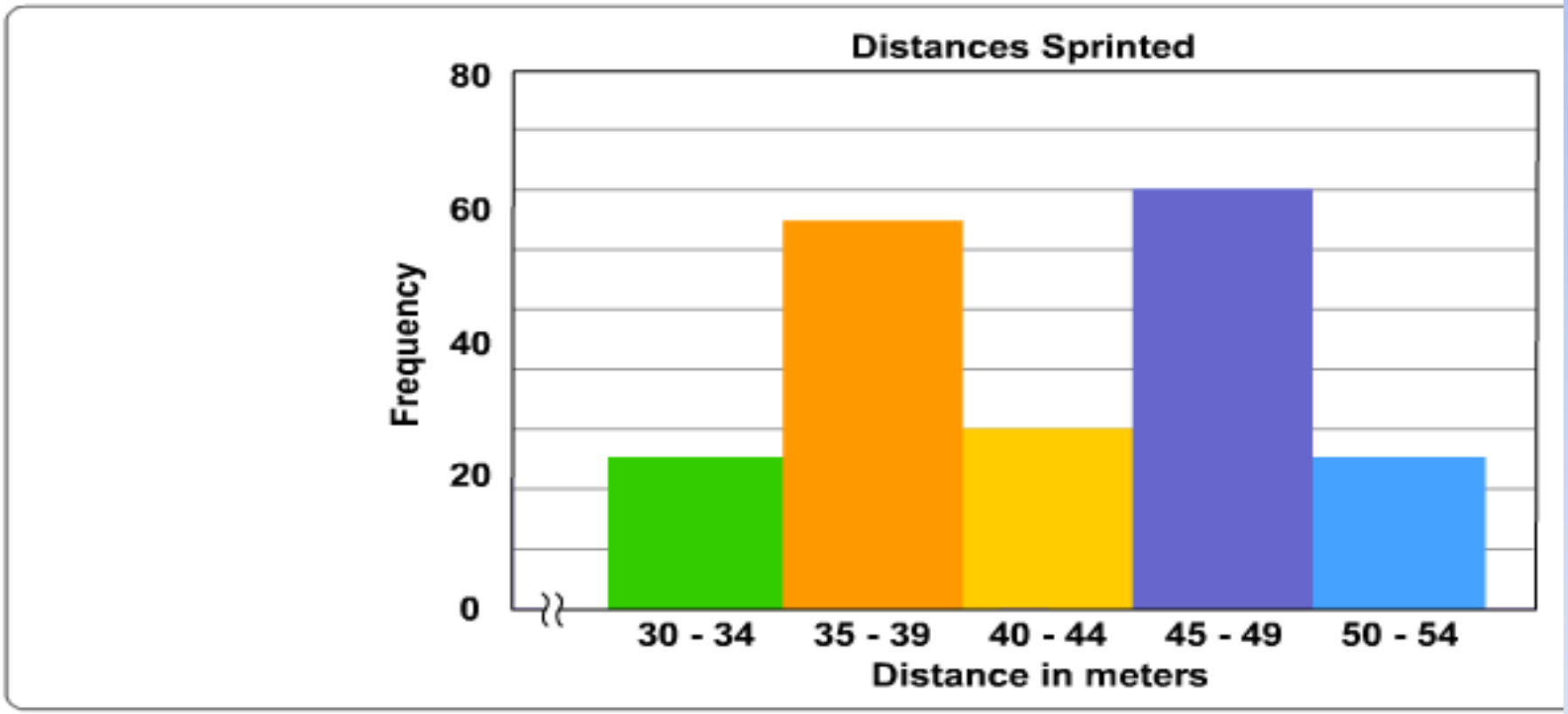
A. Grapefruit
B. Apples
C. Peaches
D. Limes



Double bar graph

Compares two sets of data that are countable in one graph

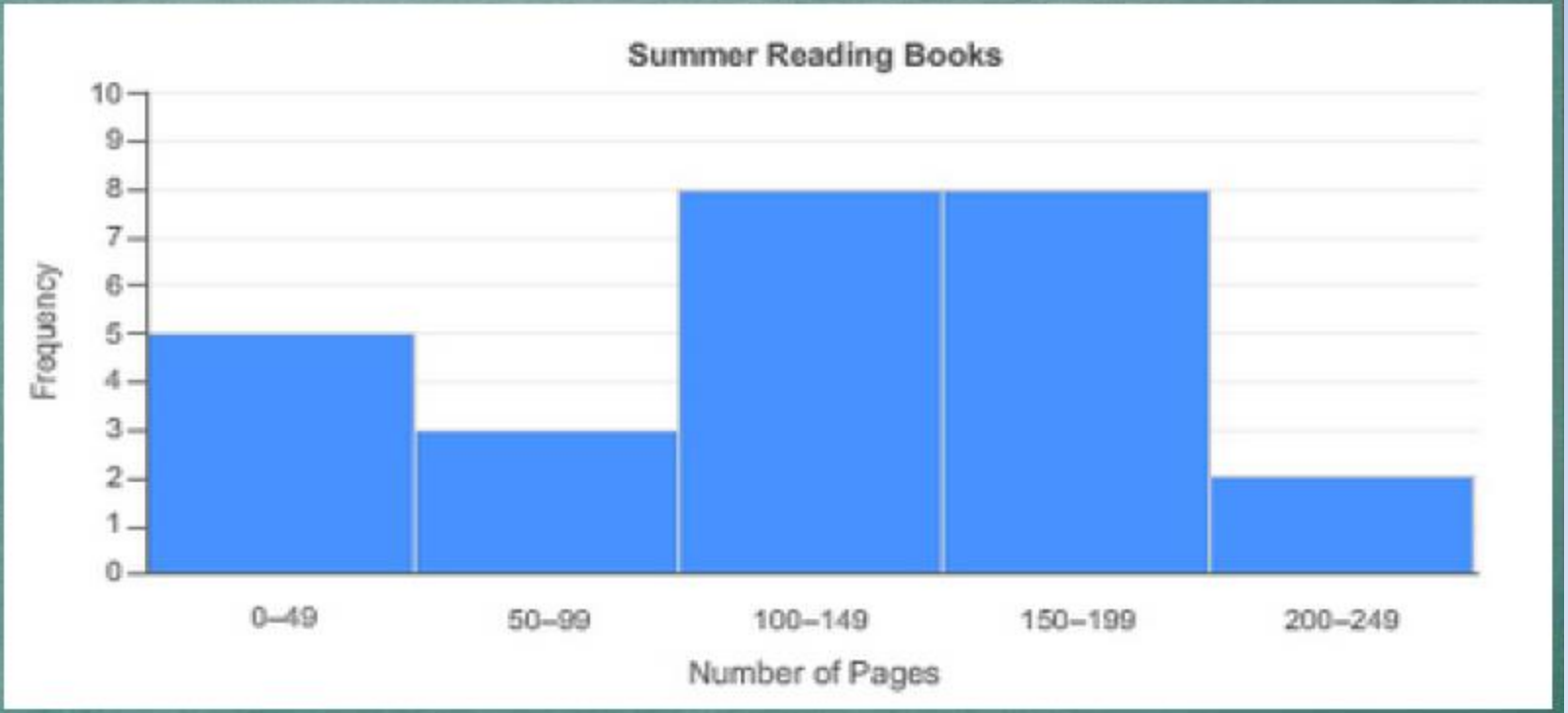
Histogram



Histogram
Compares the frequency of data

Intervals

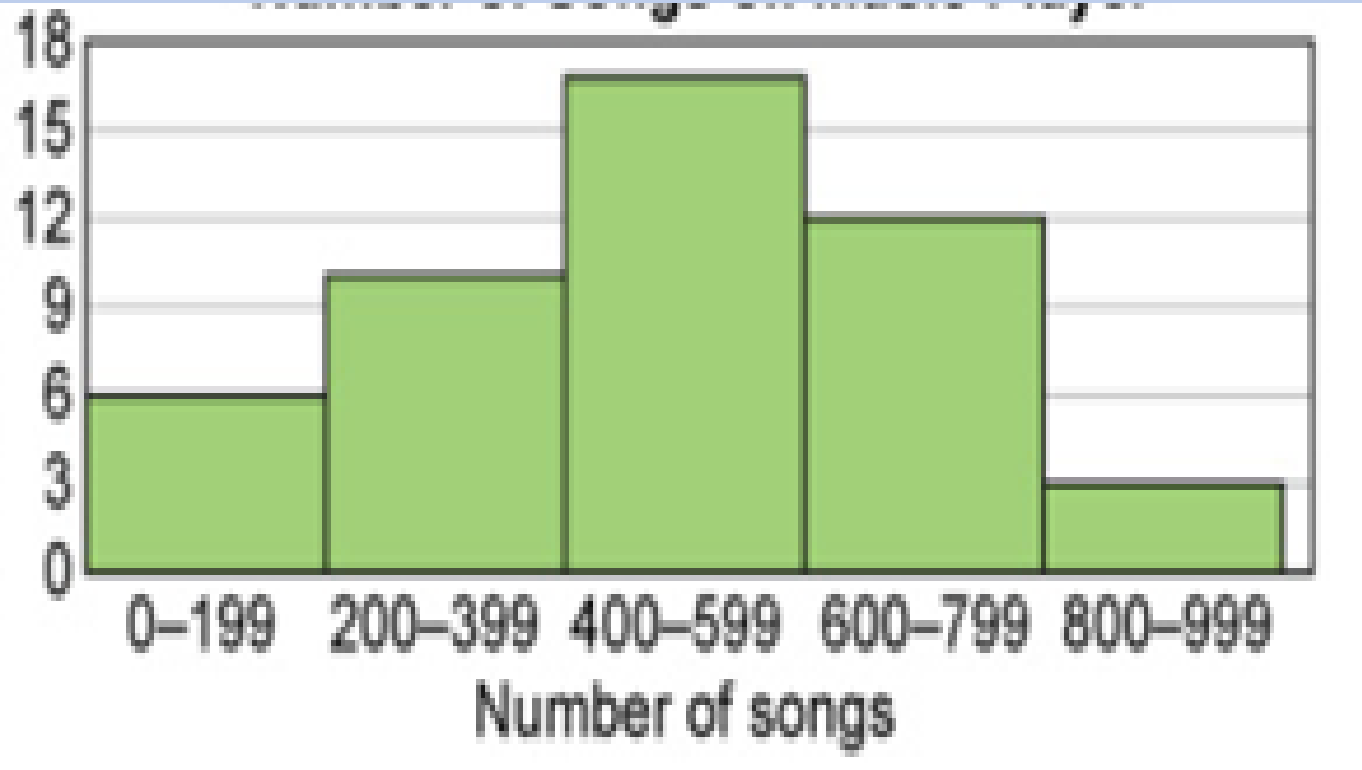
A histogram can display frequencies of individual values or of intervals of values.
Most everyday situations have such a wide range of outcomes that they require intervals.



200 Points

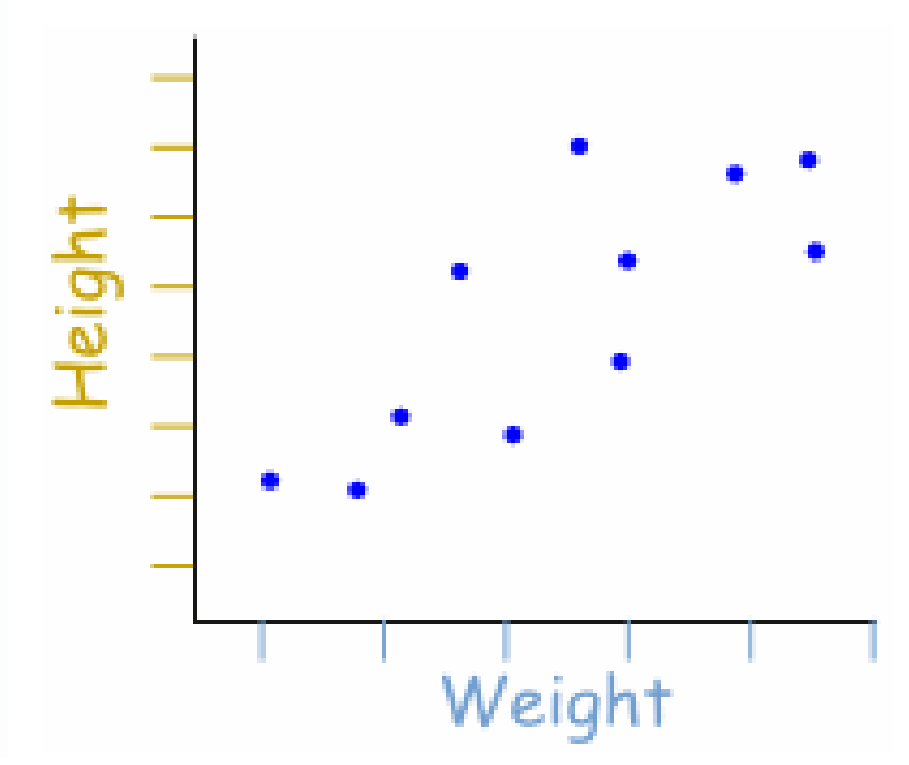
- The highest interval of songs was played at what frequency?

A. 17
B. 3
C. 12



Scatter Plots

A graph of plotted points that show the **relationship** between two sets of data.



In this example, each dot represents one person's weight versus their height.

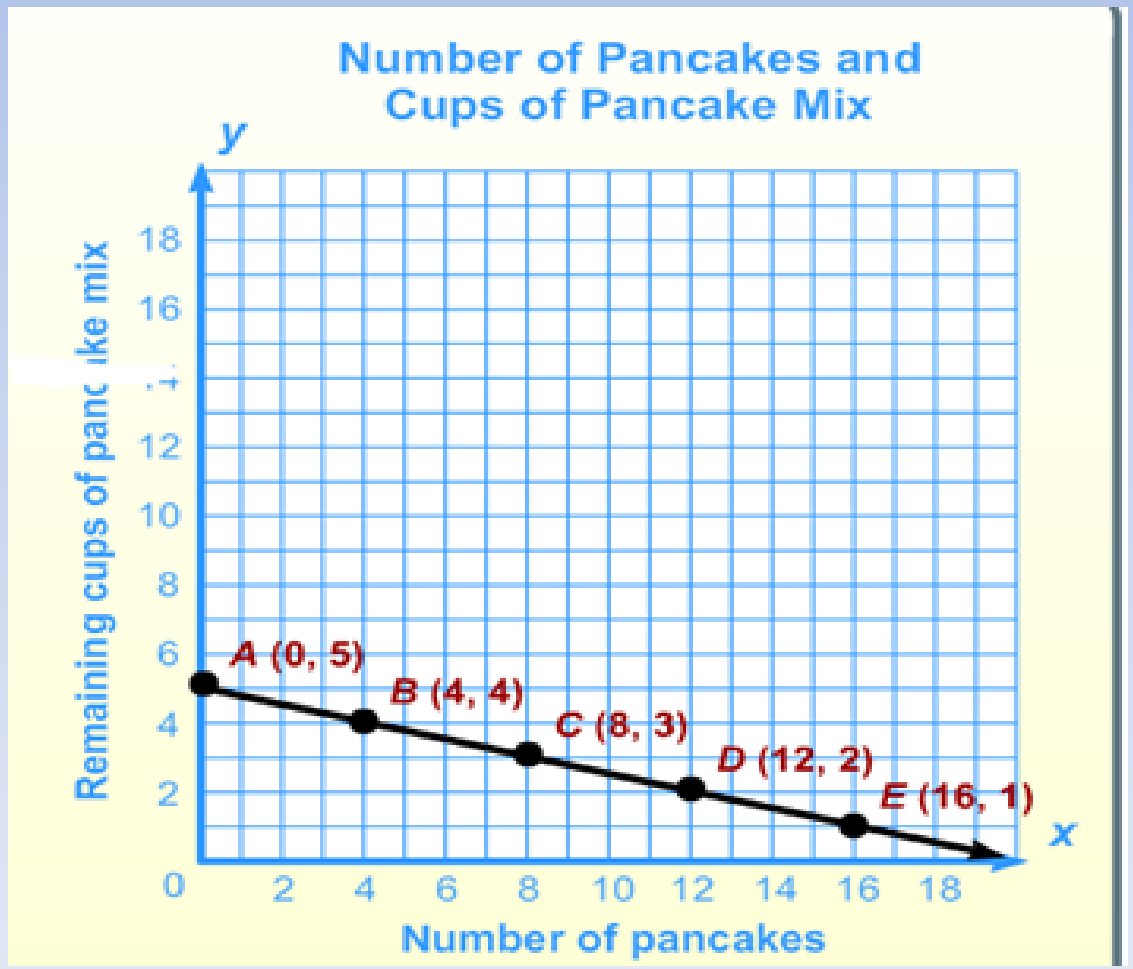
As a person's weight increases, so does their height

300 points

- What relationship is shown on this scatter plot?

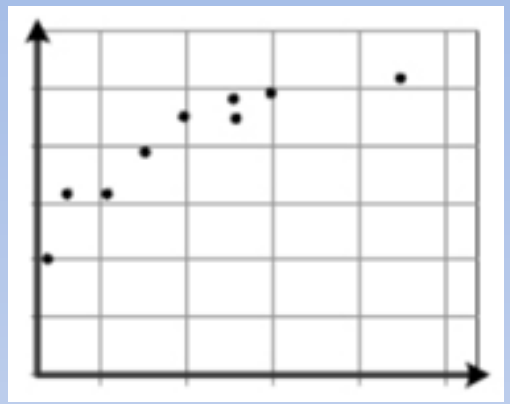
A. The more pancakes your make, the more batter you will have

B. The more pancakes you make, the less batter you will have?

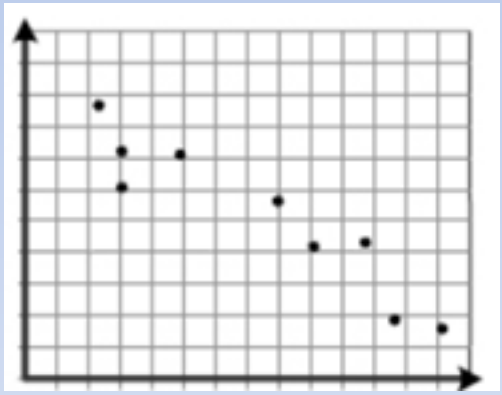


Correlations:

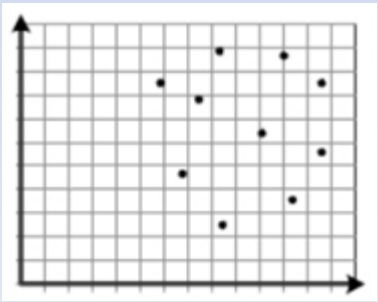
- Positive- As one variable increases, so does the other
  (data moves up & right)



- Negative- As one variable increases, the other decreases
  (data moves down & right)

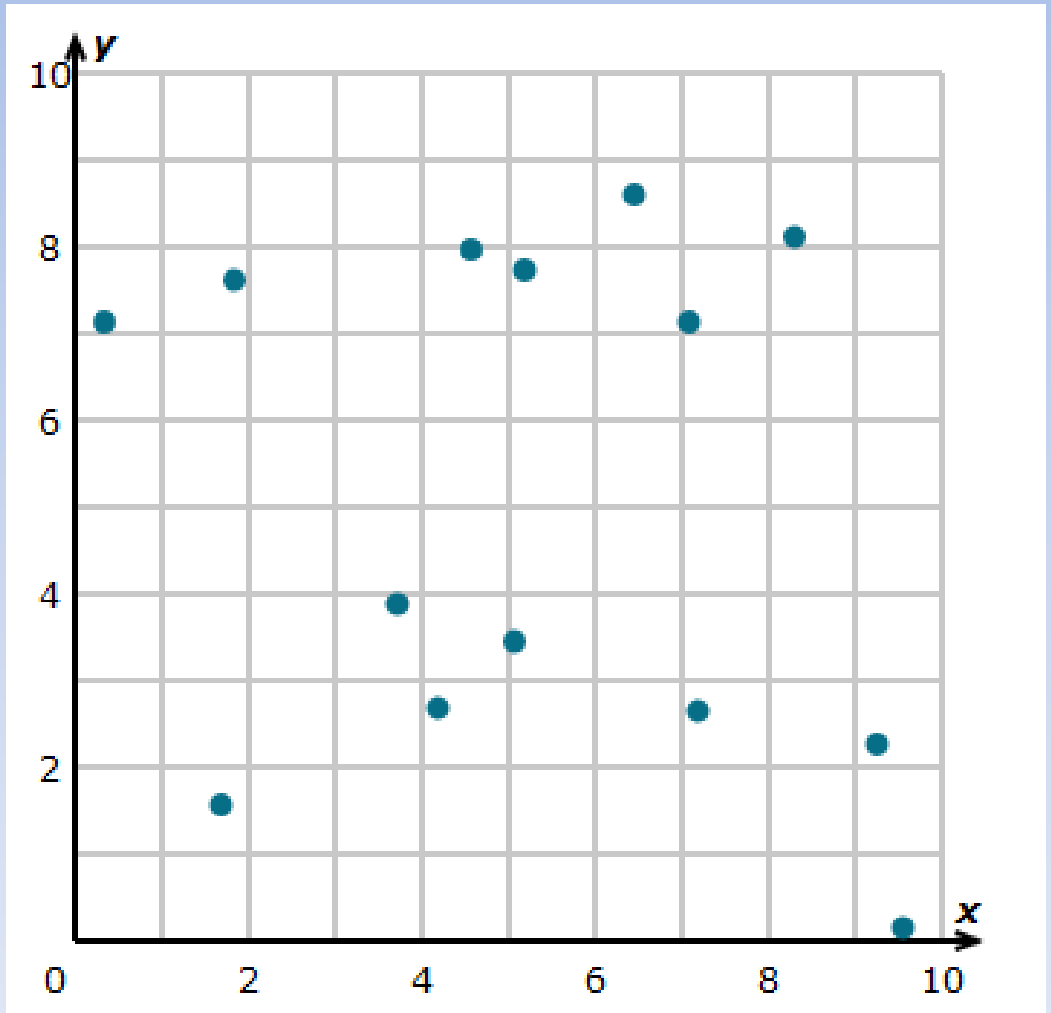


- No Correlation- no trend or pattern (dots all over)



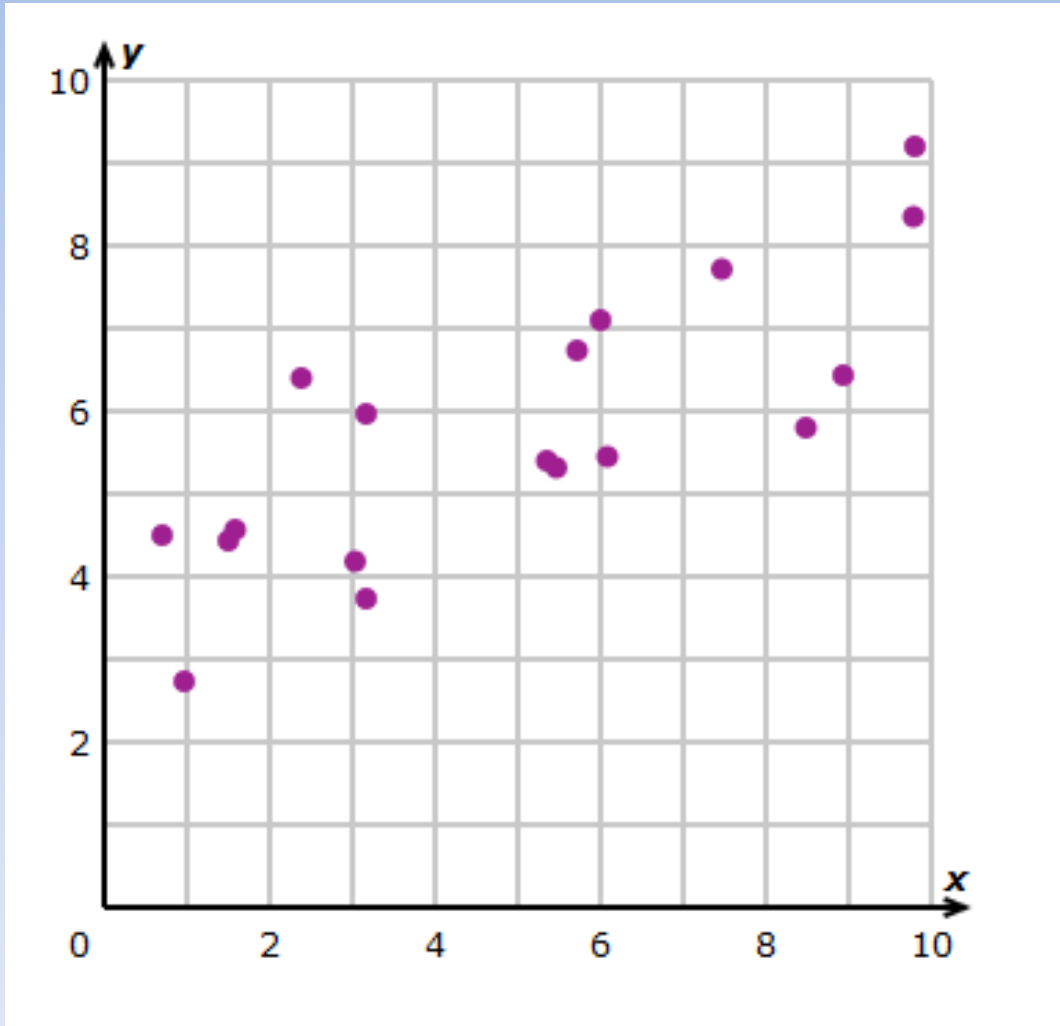
Name That Correlation 100 points

A. Positive
B. Negative
C. No correlation



Name That Correlation
200 points

A. Positive
B. Negative
C. No correlation



Independent vs. Dependent Variables

Independent Variable = represents a value you control or it affects another

Dependent Variable = a variable whose value changes with changes in the independent variable

The longer you ride your bike, the farther you will travel.

VARIABLES: Time riding and distance traveled

INDEPENDENT VARIABLE: The time spent riding the bike (we can control that)

DEPENDENT VARIABLE: The distance traveled because it depends on how long we ride our bike

100 Points

- The harder I exercise, the more tired I get.

What is my independent variable?

A. How hard I exercise
B. How tired I get

200 Points

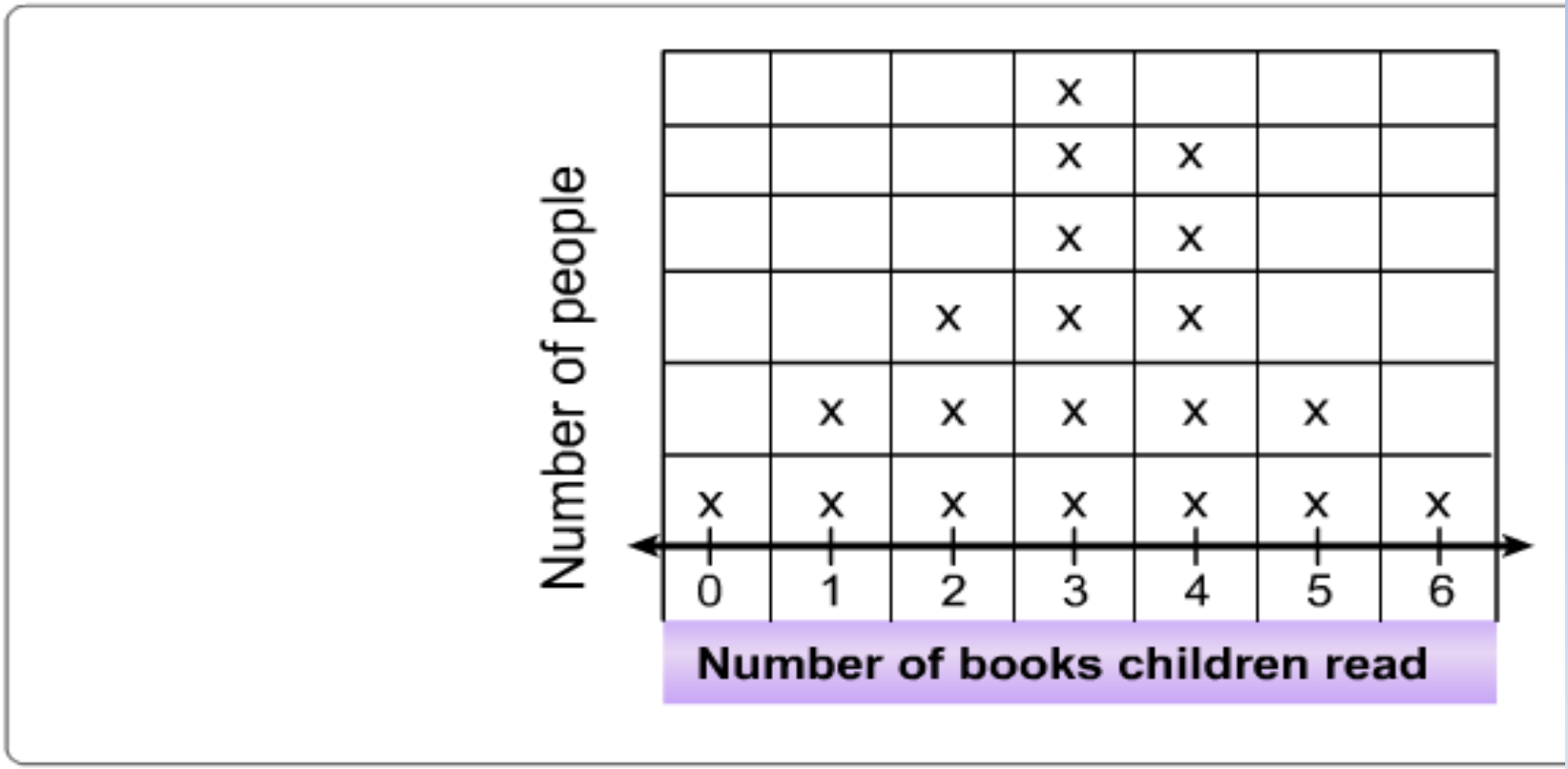
The faster you run, the less time it will take to get home.

VARIABLES: Running speed and time to get home

Which is the dependent variable? (The one that changes)

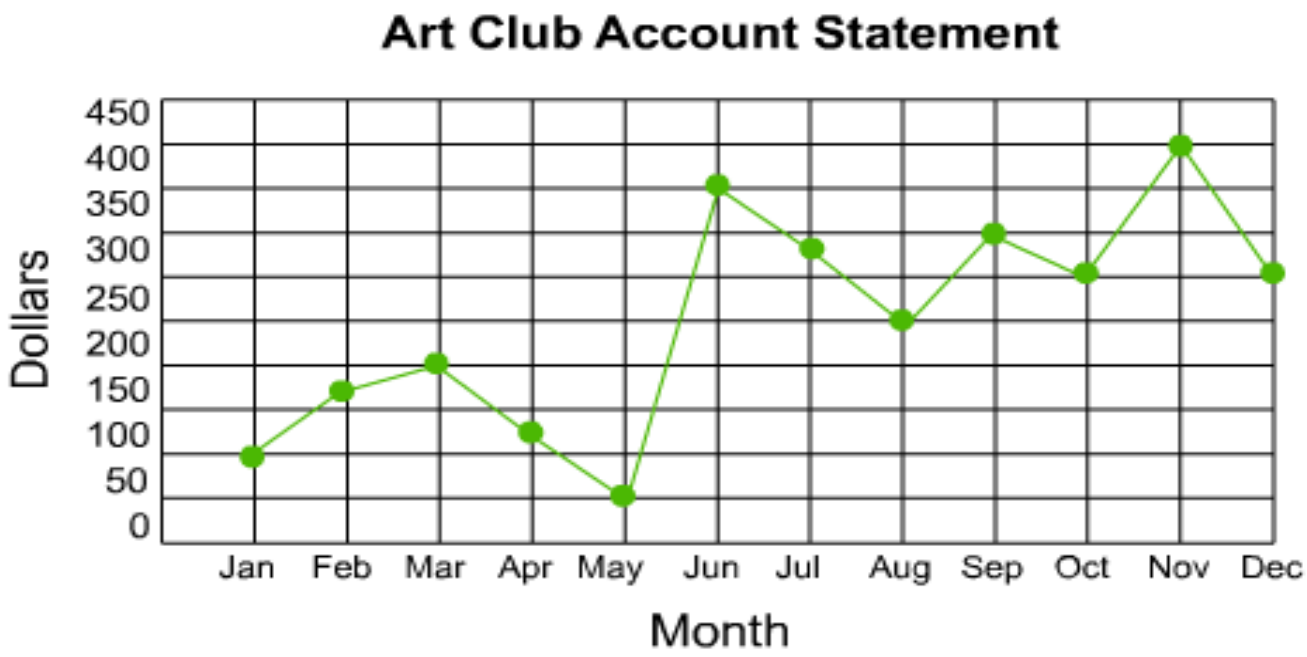
A) Running Speed
B) Time to get home

Line Plot



Line plot
Shows how data cluster or group around certain data points

Line Graph



Line graph

- Shows data over time
- Used when you want to investigate trends

100 Points

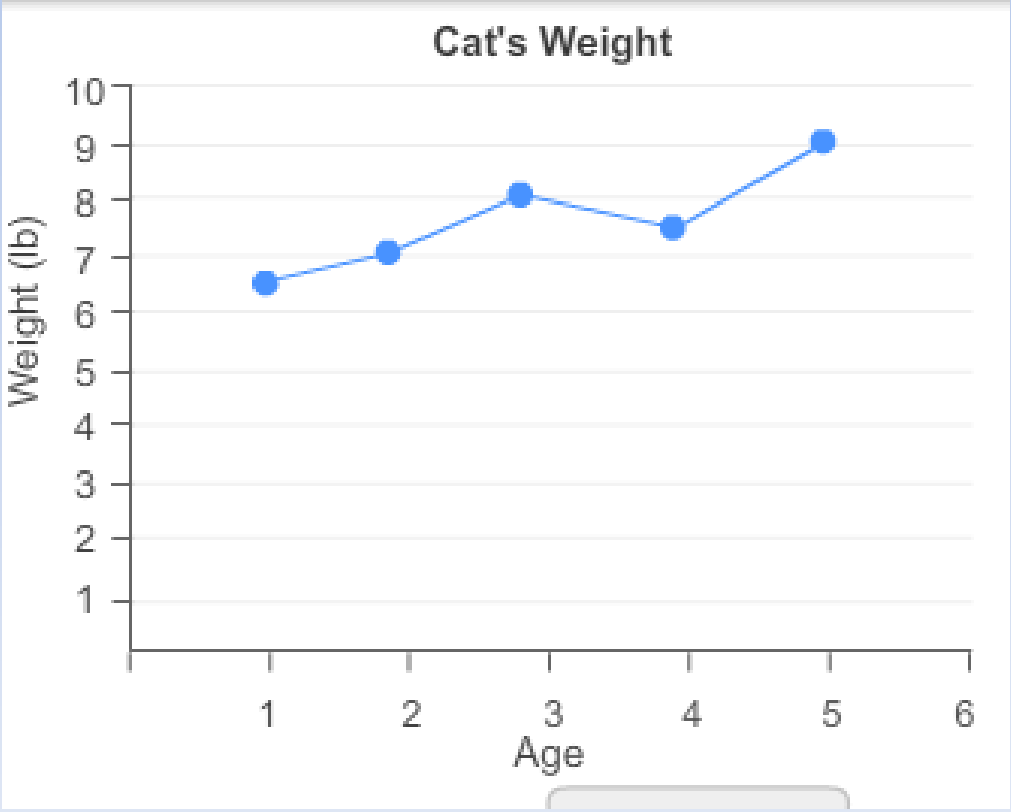
How much weight did the cat gain between 1 year and 5 years of age?

A. About 3 lbs.

B. About 1 lb.

C. About 2 lbs.

D. About 10 lbs.



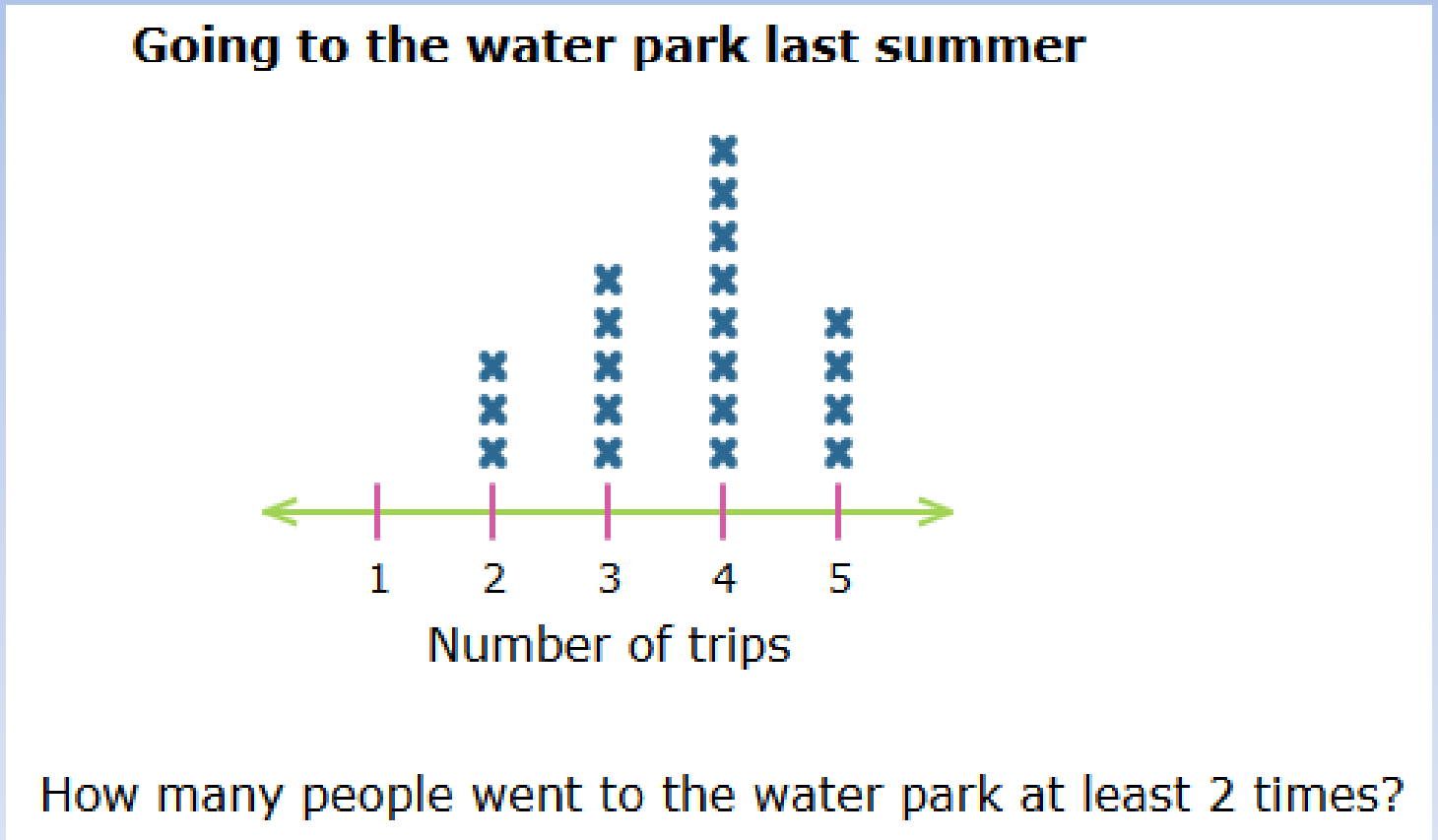
200 Points

A. 7

B. 5

C. 3

D. 4

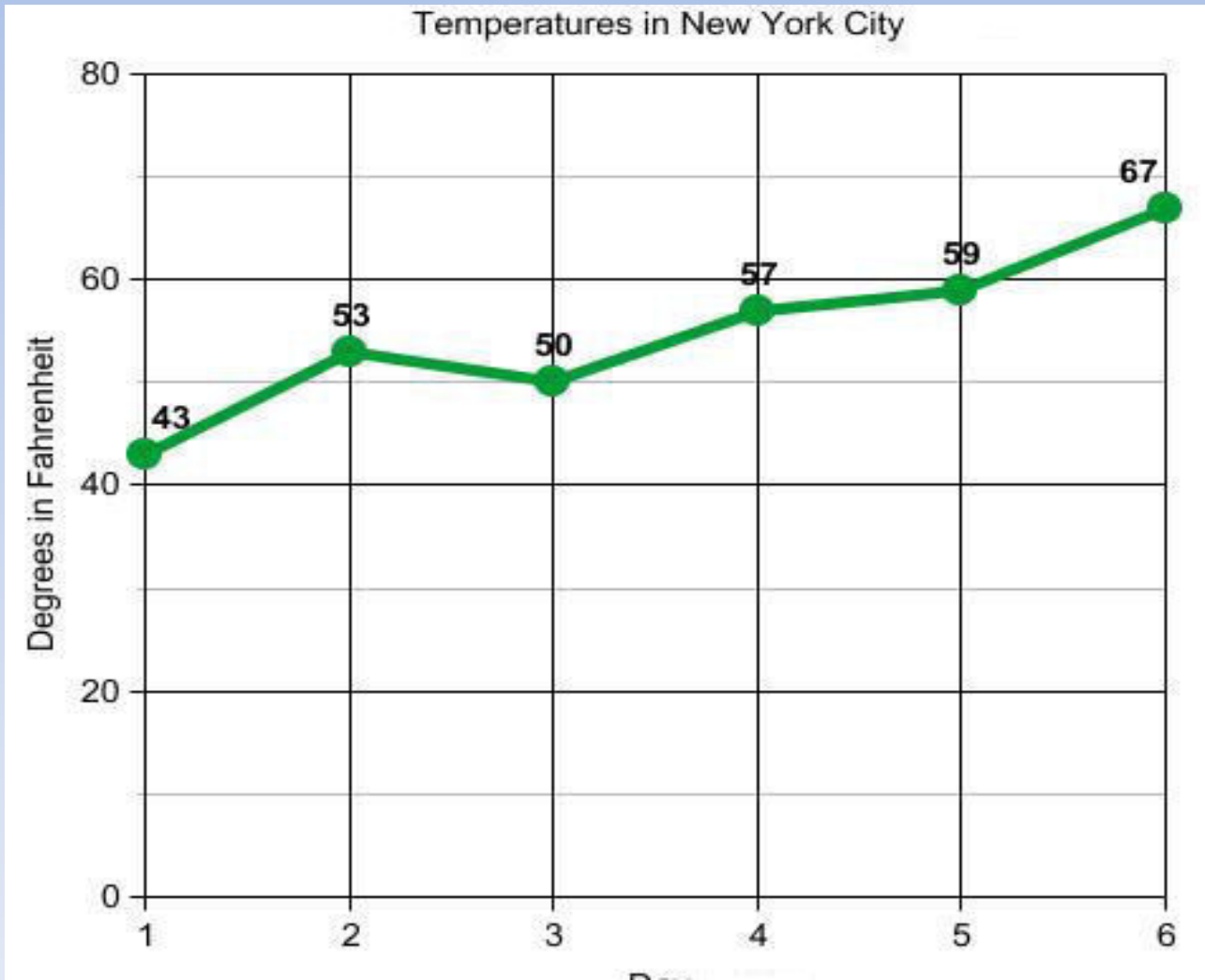


How many people went to the water park at least 2 times?

300 Points

- How many degrees did the temperature increase from day 3 to day 6?

A. 10 degrees
B. 17 degrees
C. 15 degrees



How many points did you earn?

QUESTIONS?

WHO'S AWESOME?

YOU'RE AWESOME

HOMEWORK:

Study

Study

Study