

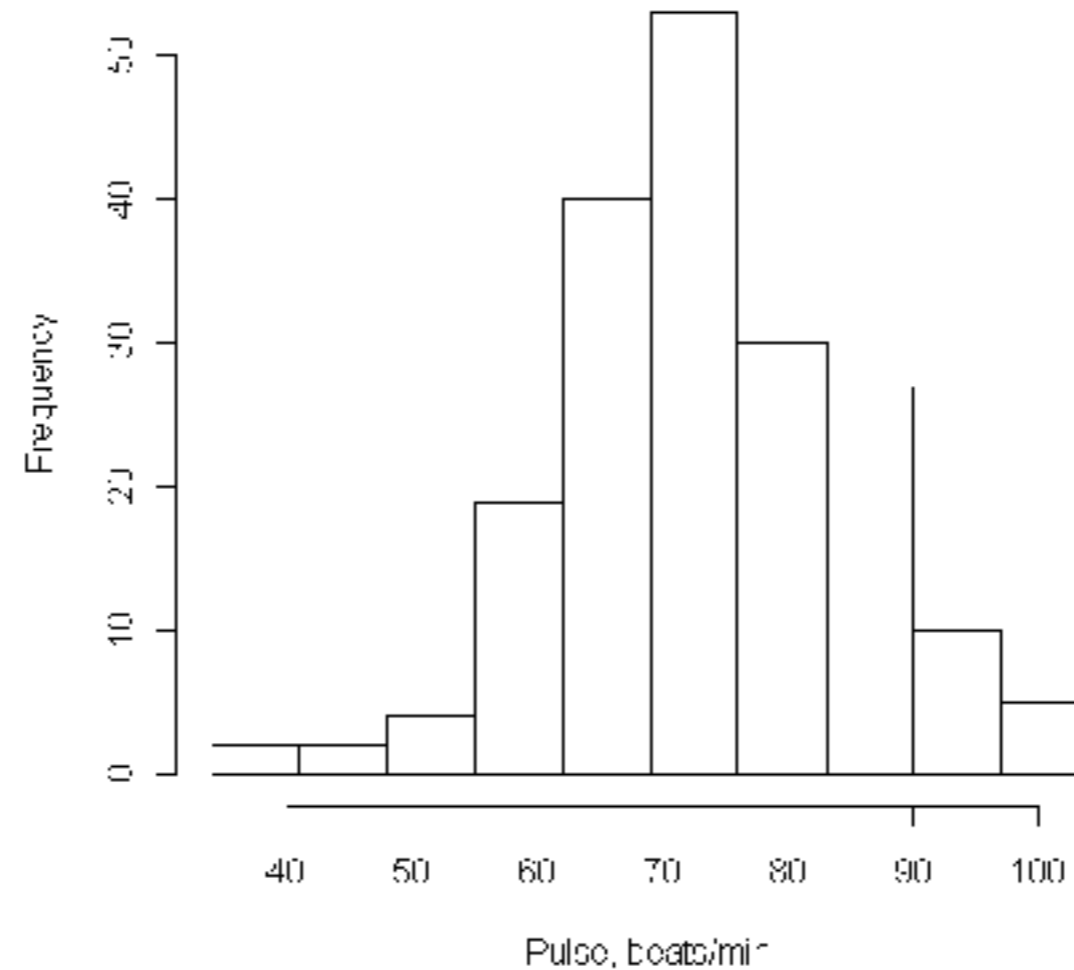
Remember the Vocabulary for Describing Charts and Plots

- Center and Spread
- Clusters and Gaps
- Outliers and Other Unusual features
- Shape

Remember your SOCS!!!!

Histogram

Pulse Rate for a Sample of Students

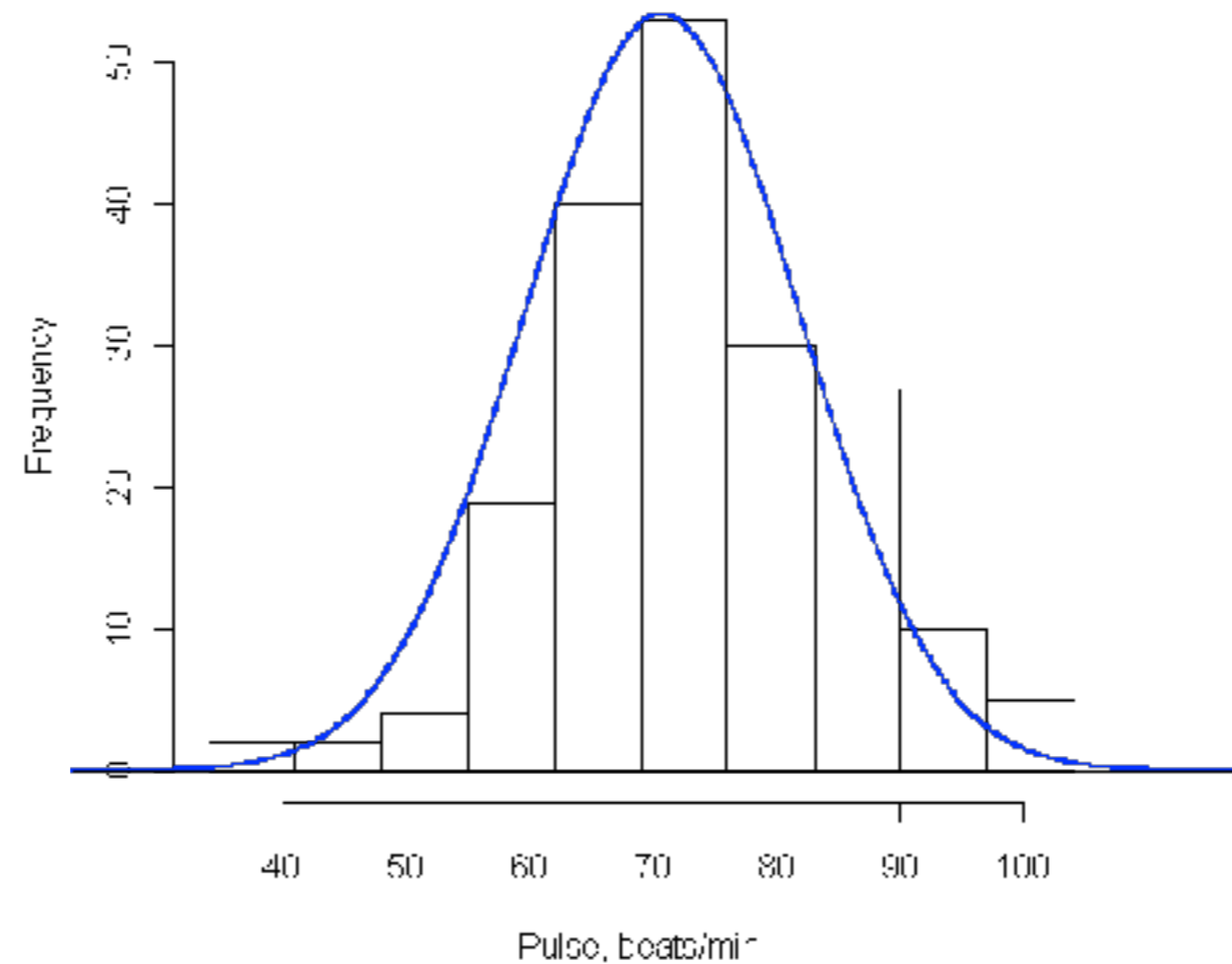


As we gather more and more data trends can emerge

Let's talk about those trends

Histogram

Pulse Rate for a Sample of Students

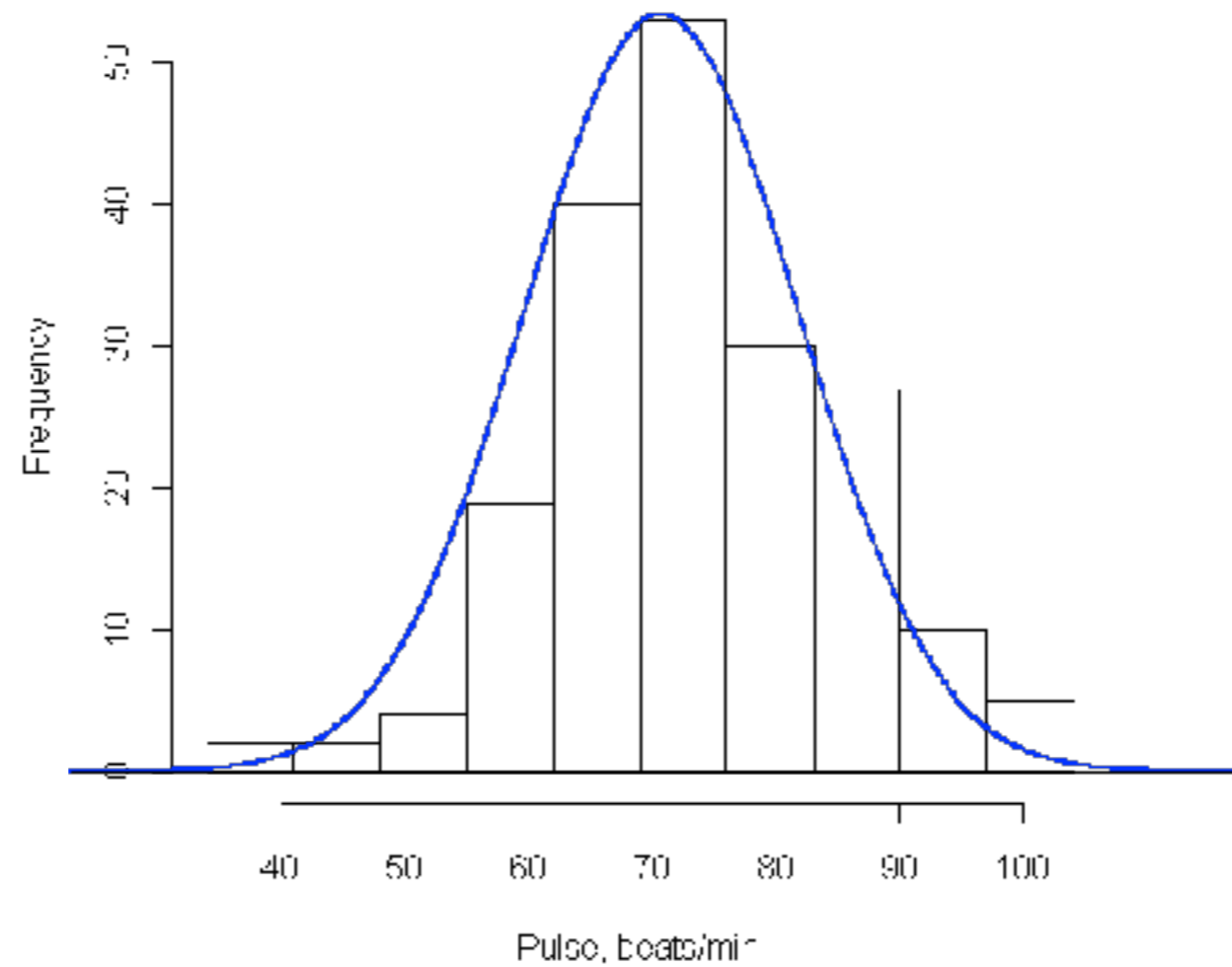


As we gather more and more data trends can emerge

This trend can be described as “approximately normal”

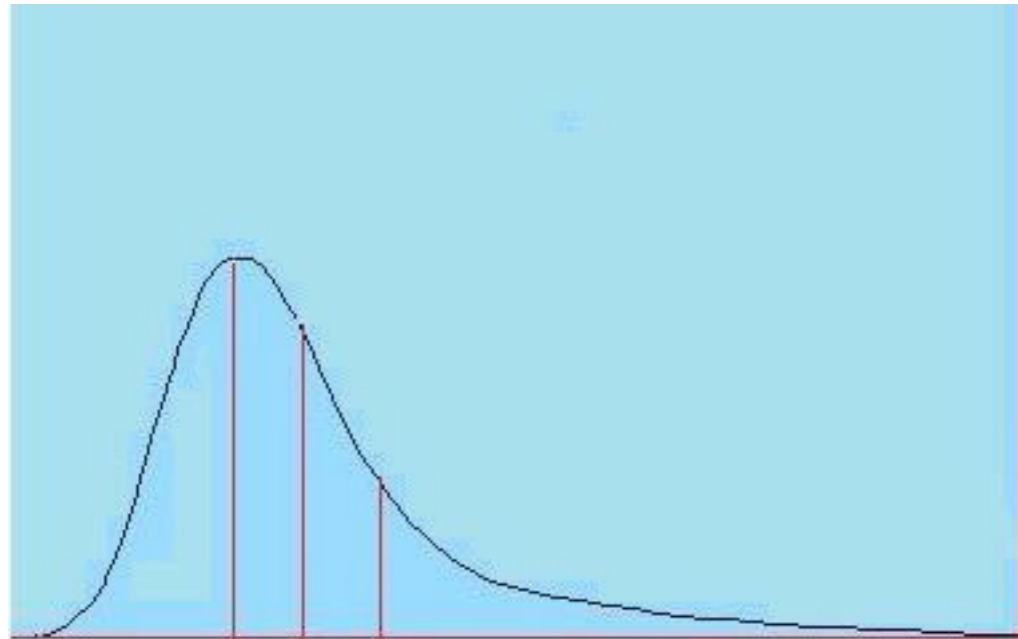
Histogram

Pulse Rate for a Sample of Students



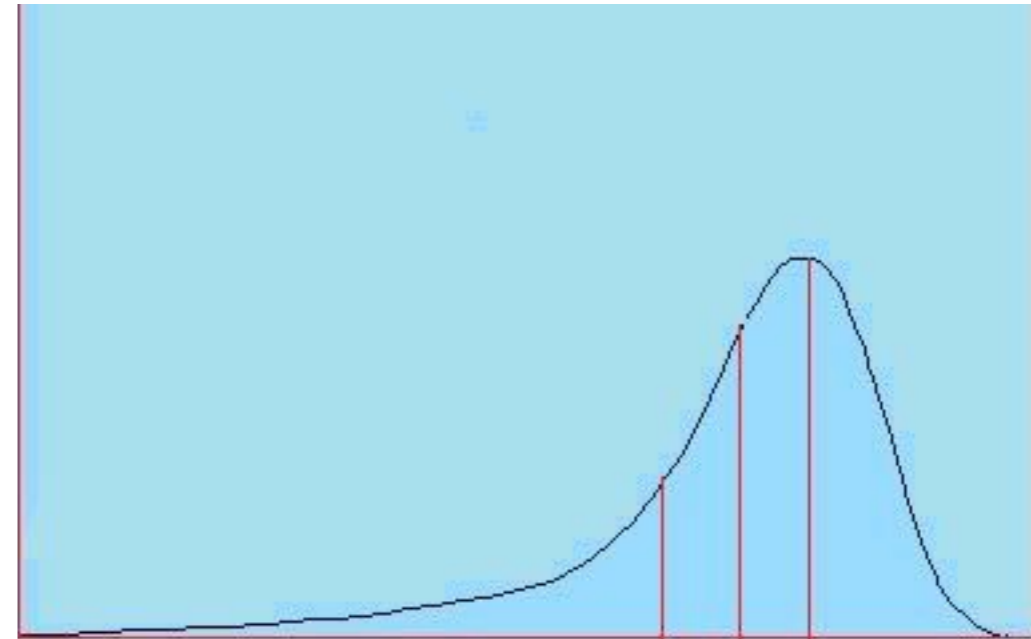
It's not always so simple. Sometimes the data “skews”

Shape



Mode Median Mean

POSITIVELY SKEWED DISTRIBUTION



Mean Median Mode

NEGATIVELY SKEWED DISTRIBUTION

- skewed right

- positively skewed

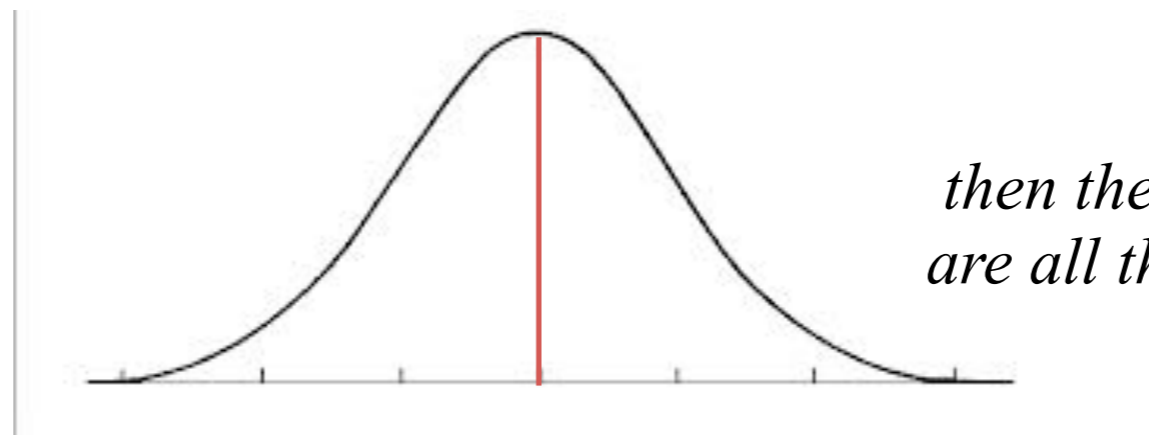
The mean is to the right of the median.

- skewed left

- negatively skewed

The mean is to the left of the median.

Note that when the graph is considered “normal”



then the mean, median, and mode are all the same.

Normal Curves

Center, i.e the x -value where the high point occurs

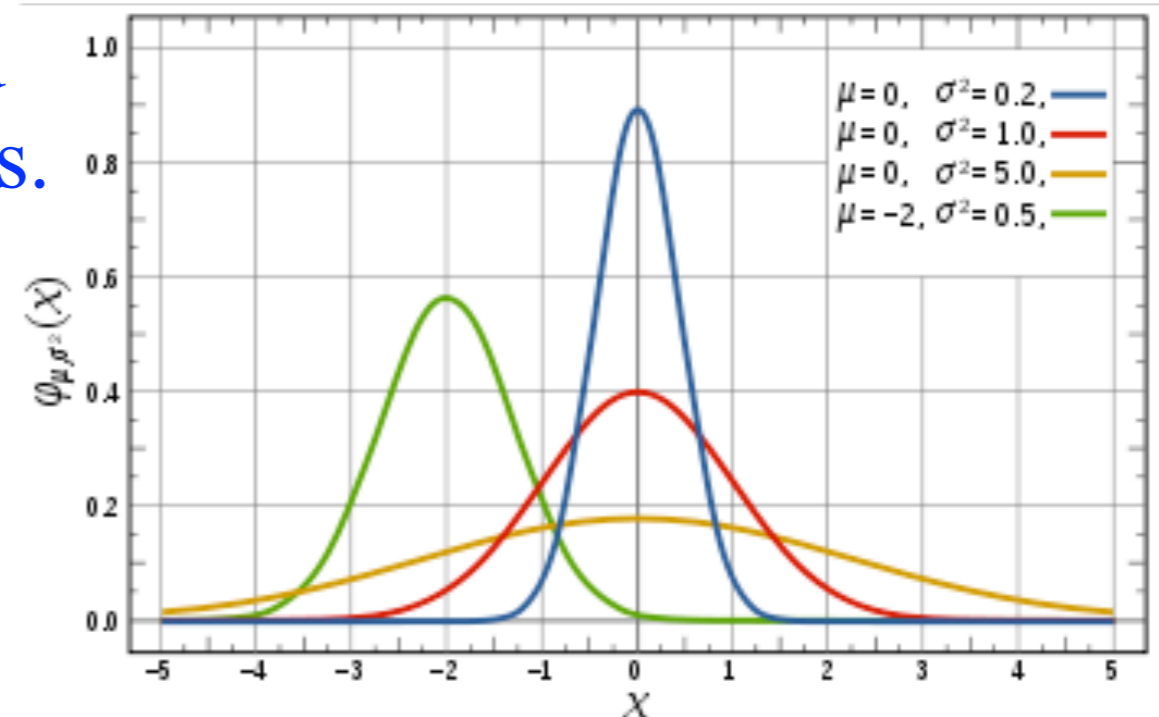
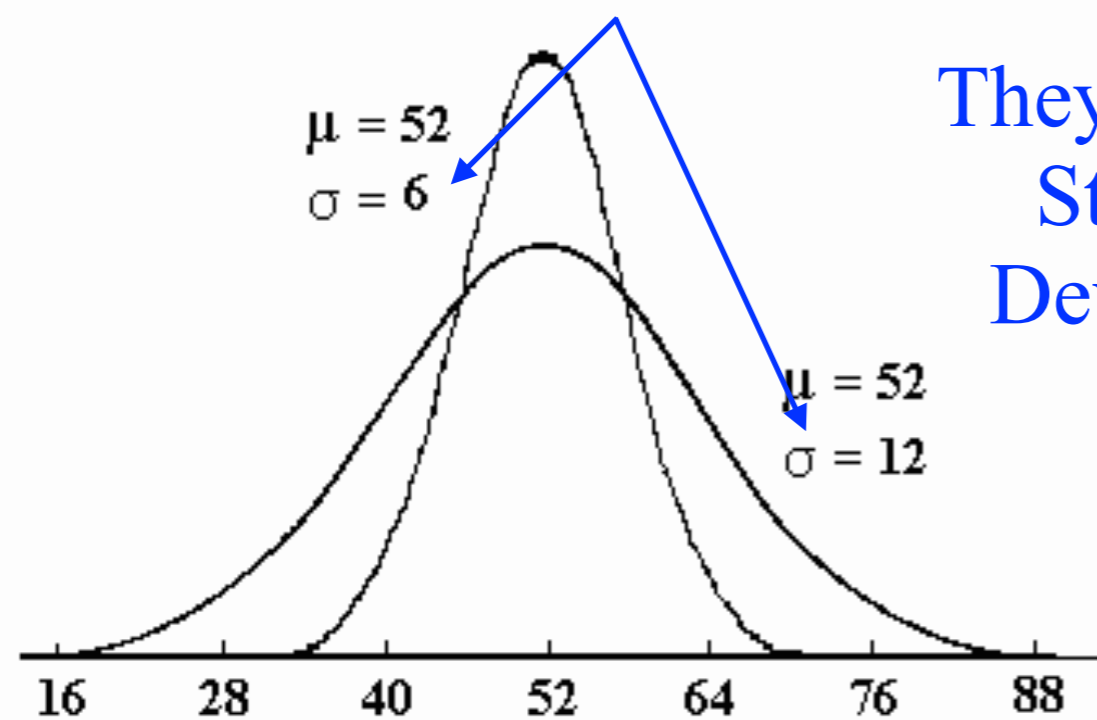
Spread

The smaller the spread, the higher the peak

Why is this
you may
wonder?

What are these?

They're called
Standard
Deviations.



We will see how to
calculate those shortly

Normal Curves Spread

The smaller the spread, the higher the peak

Note that the shaded region under *both* curves is 1

...just like the sum of all the relative frequencies 🤔

We are going to use a calculator function that finds the area of the shaded region under a curve

Note that the area of the region is exactly 1

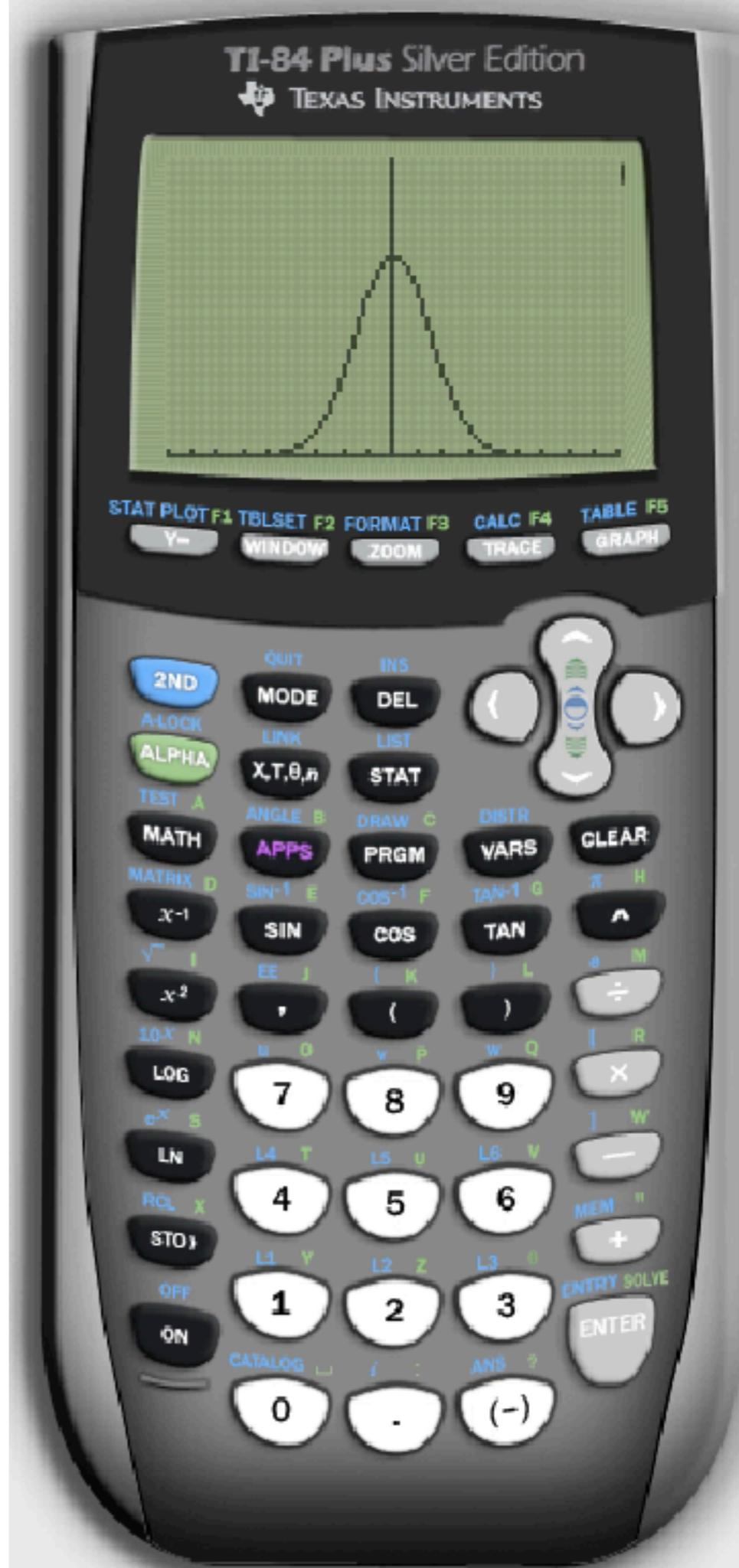
Now let's graph a normal curve with a wider spread

The second curve has a lower peak. Why?

Let's find the area.

So the wider the base the shorter the peak has to be to keep the area at 1

And the area under a normal curve must be 1. More on this in later chapters...



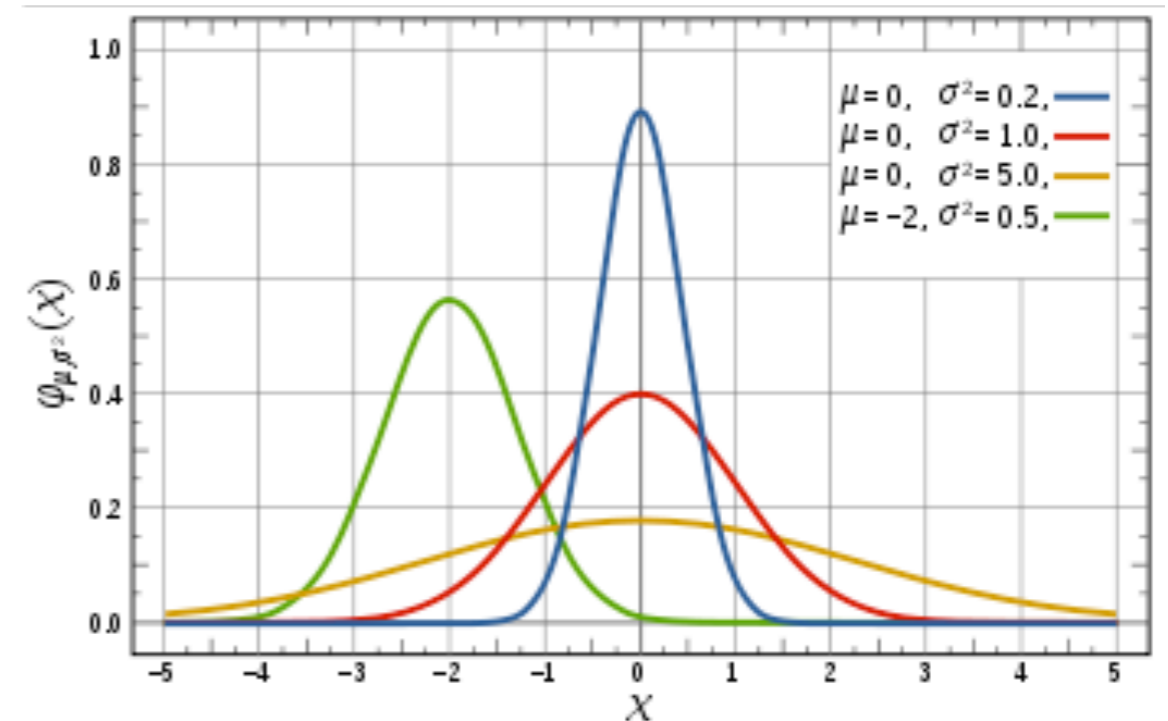
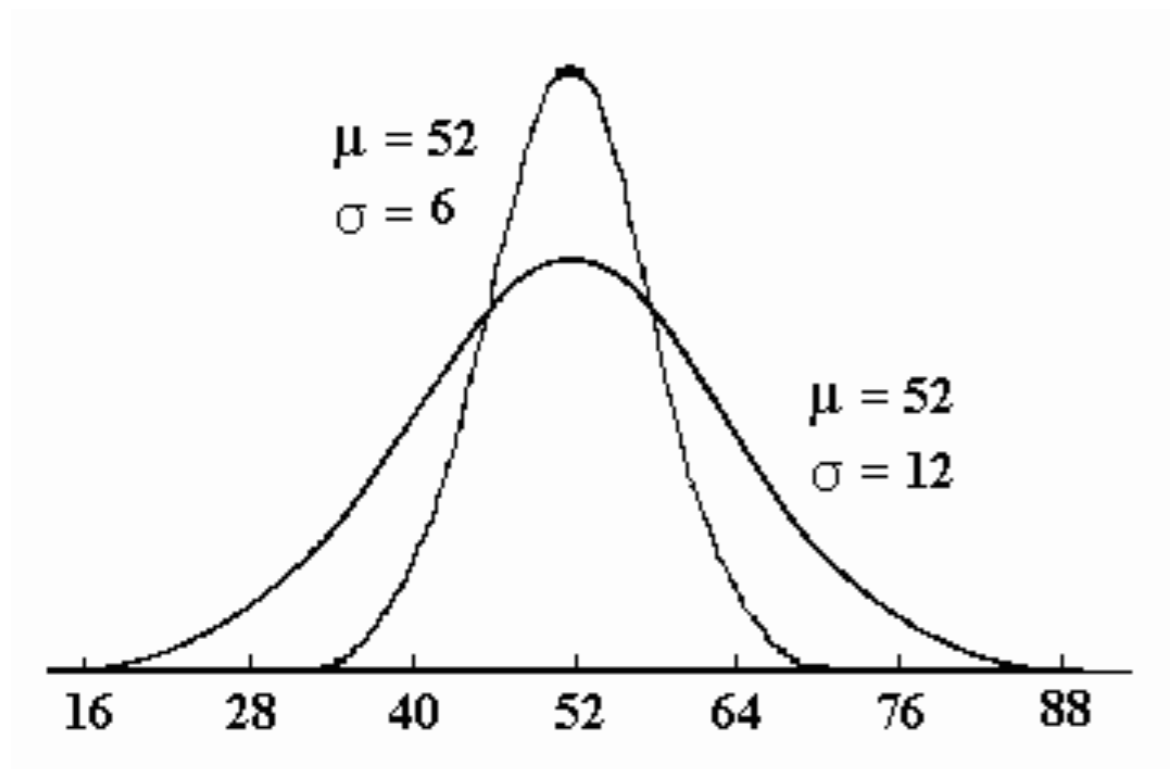
Normal Curves

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Remember that in your write ups you don't have to present them in that order, just make sure you cover them all