Algebra 2

Section 11-10

Normal Distributions
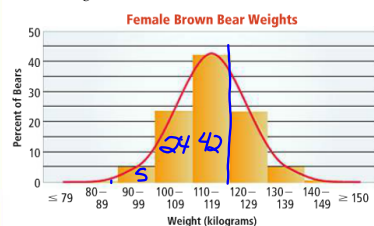
Students will be able to: use normal distributions to determine probability

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Many common statistics (such as human height, weight or blood pressure) gathered from samples in the natural world tend to have a normal distribution about their mean.

Normal Distribution: has data that vary randomly from the mean; the graph is a normal curve.
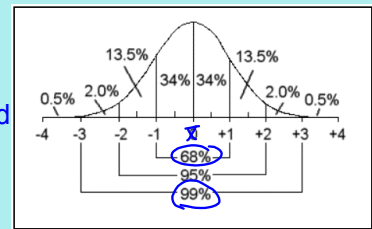

Analyzing Normally Distributed data.

Zoology The bar graph gives the weights of a population of female brown bears. The red curve shows how the weights are normally distributed about the mean, 115 kg. Approximately what percent of female brown bears weigh between 100 and 129 kg?

90%

Approximately how many weigh less than 120 kg?   *72%*

Normal Distribution Percentage Curve:

:symmetric,

bell-shaped

curve centered

at the mean.

In a normal distribution: 68% of the data falls within 1 standard deviation. 95% within 2 and 99% within 3 standard deviations from mean.

For English class, the average score on a research project was 82 and the standard deviation of the normally distributed scores was 5. Sketch a normal curve showing the project scores and 3 S.D. from mean.

-What percent of students scored a 82% or above?   *50%*

-What percent of students scored between a 72 and 82%?   *47.5%*

-What percent of students scored a 77 - 92%?   *81.5%*

-What percent scored less than a 87%?   *84%*

Hwk: pg 743 - 744 #8 - 12 even,

15-18 all, 23 - 28 all