Accel Precalc Notes: Normal Distributions Name _____
Unit #1: Data Analysis
Lesson #8: Normal Distribution

EQ:

Recall: Three Types of Distributions

_____ _____ _____

Normal Distributions --- created from _____random variables

Characteristics of a Normal Distribution:

1. _____, _____-Shaped Curve and ____modal.

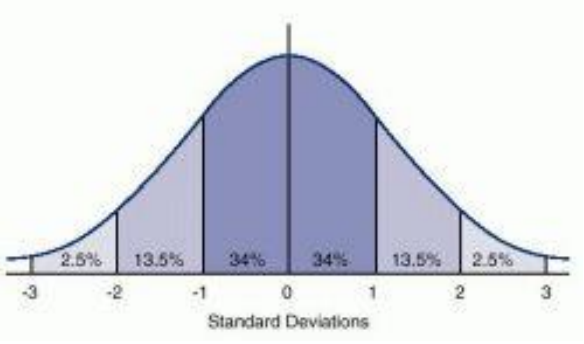
2. _____ are equal and located at the _____ of the distribution.

   _____ about the _____. Not _____

3. The curve is _____, no gaps or holes. The curve never touches or crosses the
   _____.

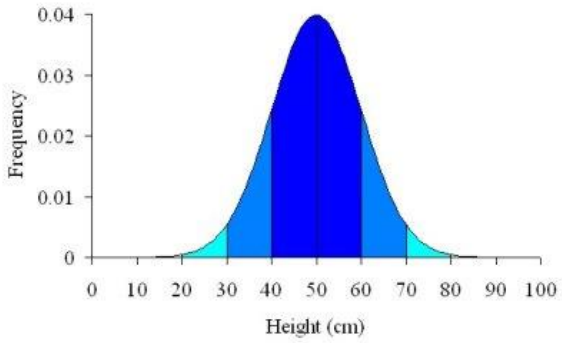
4. The total _____ under the curve equals __.

Recall: _____ Rule

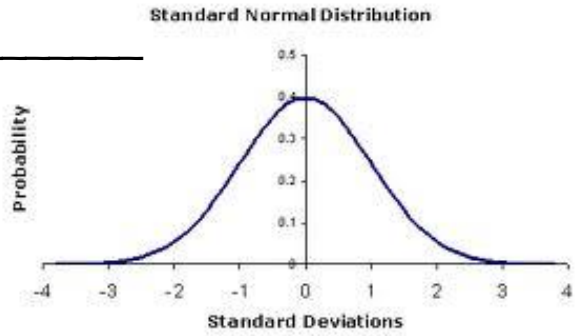


Normal Distribution --- each has its own _____ and _____

What are μ and σ in this normal distribution?



Standard Normal Distribution --- mean is _____
and standard deviation is _____

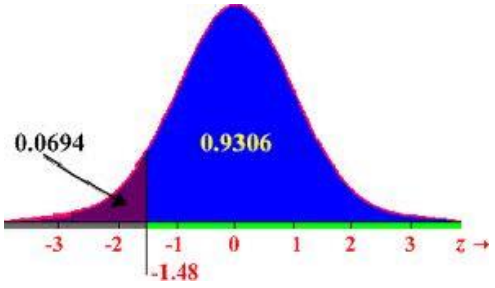


How do you make a ND ➡ SND? _____

z-score --- the number of _____ above or below the _____

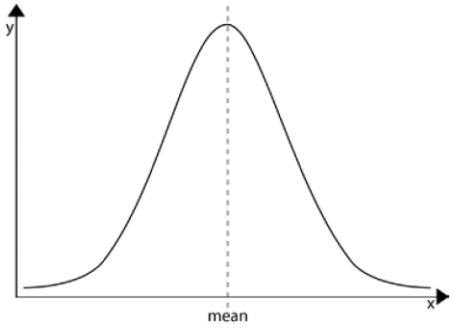
z = or z =

Correlates to _____ under the curve.

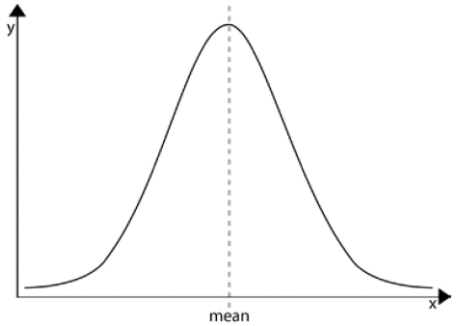


Ex. In a study of bone brittleness, the ages of people at the onset of osteoporosis followed a normal distribution with a mean age of 71 and a standard deviation of 2.8 years. What z-score would an age of 65 represent in this study?

ND



SND



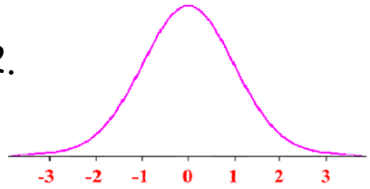
❖ Finding the Area under the Curve

Ex. Find the area under the curve to the left of z = -2.18.

Ex. Find the area under the curve to the left of z = 1.35.

Ex. Find the area under the curve to the right of z = 0.75.

Ex. Find the area under the curve between z = -1.36 and z = 0.42.

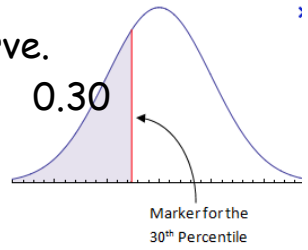


Ex. Find the area under the curve between z = 1.60 and z = 3.3.

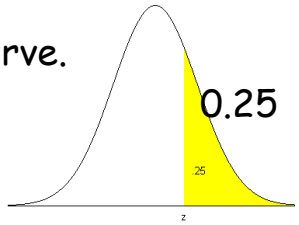
❖ In Class Practice Worksheet: Area Under the Standard Normal Curve #1 - 11

❖ What about finding a z-score when given area under the curve?

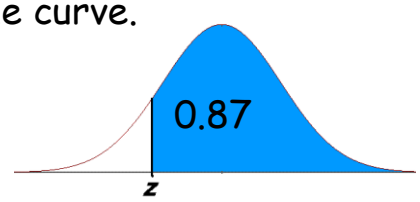
Ex. Determine the z-score that would give this area under the curve.



Ex. Determine the z-score that would give this area under the curve.



Ex. Determine the z-score that would give this area under the curve.



❖ Practice Worksheet: Calculating Area Using z-scores