2.2b **Working Backwards with Normal Curves**

(given % or area, find z-score or bound)

ex: 20% of data are above what z-score?

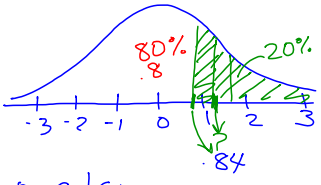
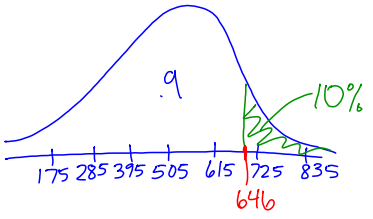


Table A → .8
↓
.7995
↓
z = .84

on calc:

2nd → vars → 3: invNorm(area below as a decimal , μ, σ)

ex: SAT Test Scores - N(505, 110)
What score do I need to be in the top 10%?



invNorm (.9, 505, 110)
area below, mean, st. dev.

We need to get a score of at least 646.

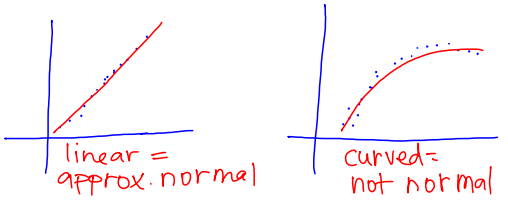
on calc: invNorm (area to the left, mean, st. dev.)
invNorm (.9,505,110)

Assessing Normality

To decide if data are Normally distributed:

① graph data, look at shape, check the 68-95-99.7 rule

② Look at the Normal Probability Plot
look for linear pattern



ex: Are the data Normal? No.

mean = 100
St. dev. = 20
min = 81
max = 200