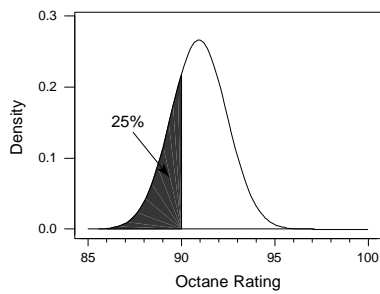


Stat 101: Lecture 9

From Percentiles to Scores

- What octane rating corresponds to the 25th percentile?
- Draw a picture.
- The 25th percentile is how many standard deviations away from the mean?

1



2

Standard Normal Model

- Table Z: in your text.

0.09	0.08	0.07	0.06	0.05	0.04	0.03	0.02	0.01	0.00	z
										-0.9
										-0.8
										-0.7
0.2451	0.2483	0.2514	0.2546							-0.6
										-0.5

$$-0.67 = \frac{? - 91}{1.5}$$

3

Stat 101: Lecture 9

Standard Normal Model

- http://davidmlane.com/hyperstat/z_table.html

$$-0.67 = \frac{? - 91}{1.5}$$

$$? = -0.67(1.5) + 91$$

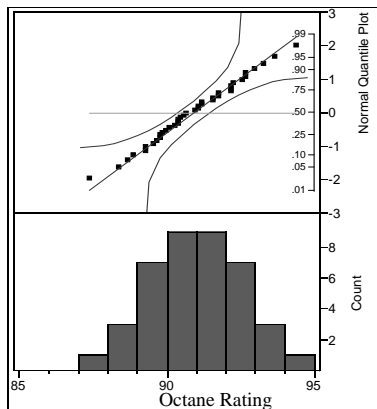
$$? = -1 + 91 = 90$$

4

Are Your Data Normal?

- The histogram should be mounded in the middle and symmetric.
- The data plotted on a normal probability (quantile) plot should follow a diagonal line.

5



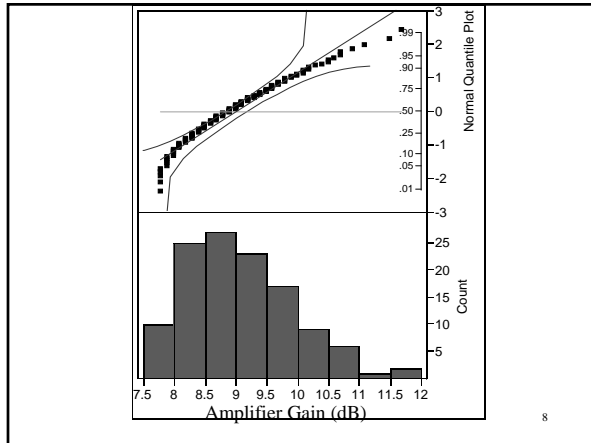
6

Stat 101: Lecture 9

Octane Data

- Normal Quantile Plot
 - Data (black dots) follow the Normal Model (red diagonal line).
- Histogram
 - Shape is symmetric and mounded in the middle
- Octane data could have come from a Normal Model.

7



8

Amplifier Gain Data

- Normal Quantile Plot
 - Data (black dots) start below, curve above and then below the Normal Model (red diagonal line).
- Histogram
 - Shape is mounded on the left and skewed to the right.
- Amplifier gain data could not have come from a Normal Model.

9
