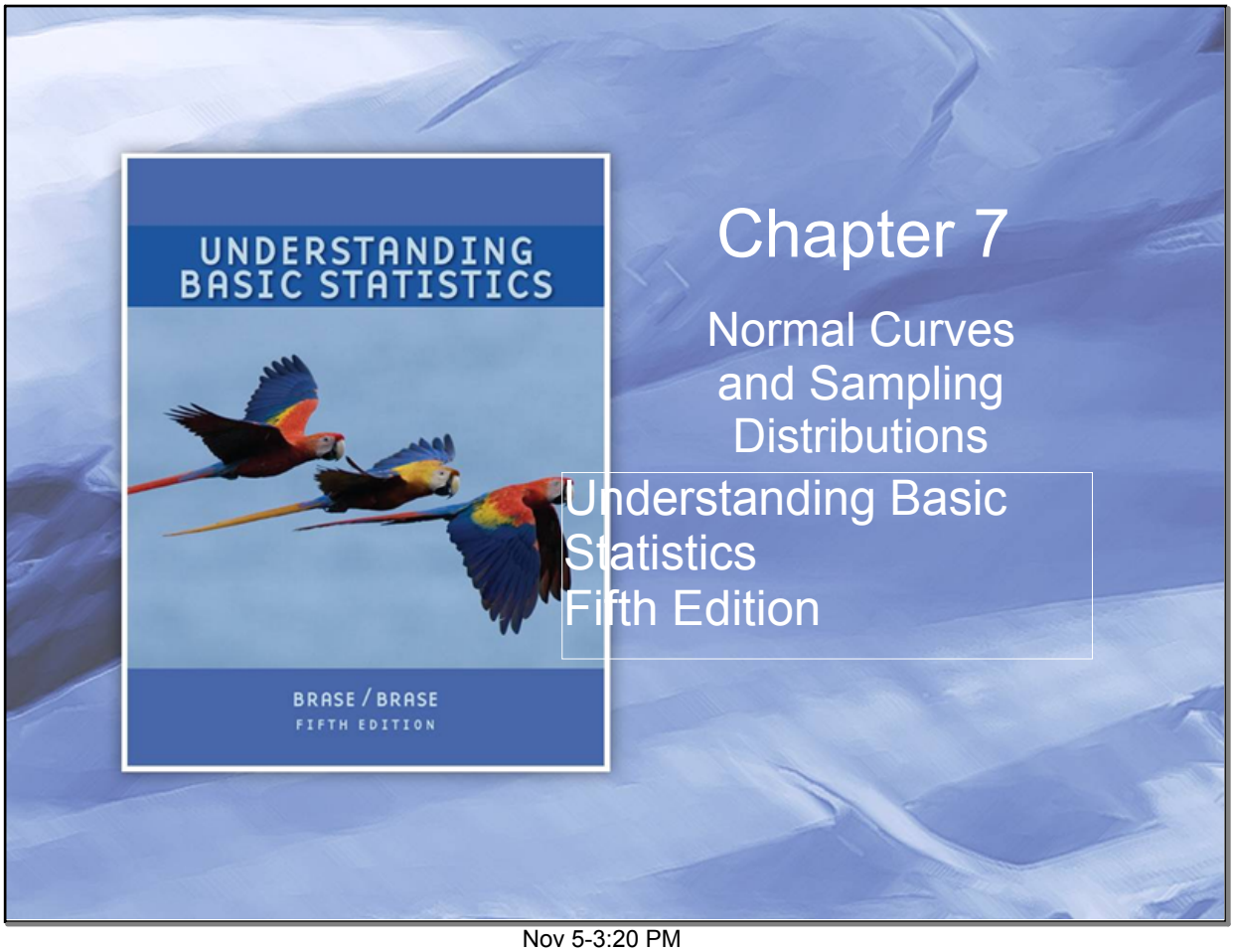
Login clickers & yes calculators.

Have out the 7.1 vocabulary and S.S. part 3 to collect.

Get the 7.2 vocabulary and READ pgs. 251 - 258

May 24-7:44 AM



Nov 5-3:20 PM

Raw Scores and *z* Scores

The *z* value or *z* score gives the number of standard deviations between the original measurement x and the mean μ of the x distribution.

$$z = \frac{x - \mu}{\sigma}$$

Given an x distribution with mean μ and standard deviation σ, the raw score x corresponding to a z score is

$$x = z\sigma + \mu$$

$2 \cdot 3 + 2$

Nov 5-3:20 PM

Raw Scores and *z* Scores

The *z* value or *z* score gives the number of standard deviations between the original measurement x and the mean μ of the x distribution.

$$z = \frac{x - \mu}{\sigma}$$

For a distribution with $\mu = 10$ and $\sigma = 2.5$, find the *z* score of the value $x = 15$.

1 Answer?

a). $z = 2$ b). $z = 12.5$

c). $z = 4$ d). $z = 3.16$

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Do Example 1.

From example 1 what is the raw score if the z-score is 2?

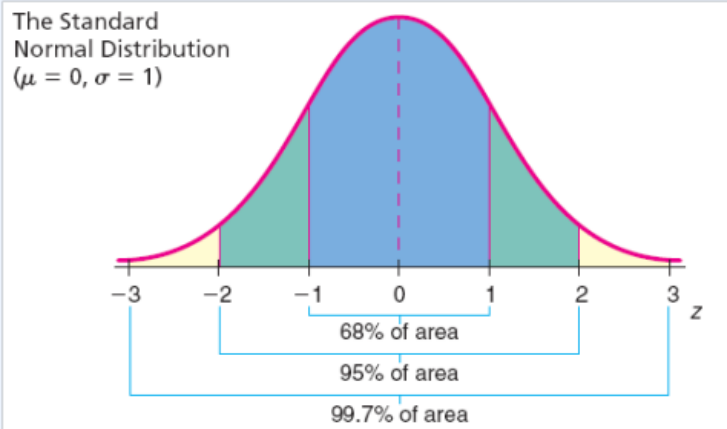
Do Example 2.

Fill in the blanks for II and III

Nov 7-10:42 AM

Distribution of *z*-Scores

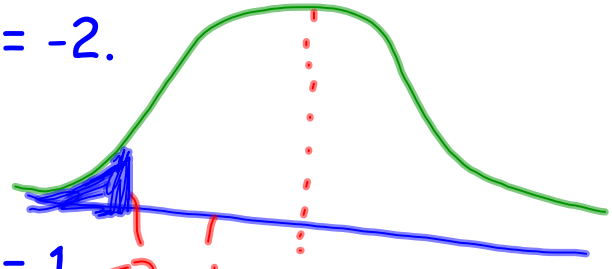
- If the original *x* values are normally distributed, so are the *z* scores of these *x* values.
- μ = 0
- σ = 1



Nov 5-3:20 PM

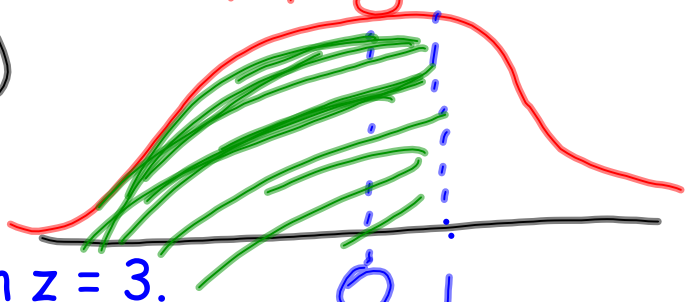
Draw a curve when z = -2.

$P(z \leq -2)$



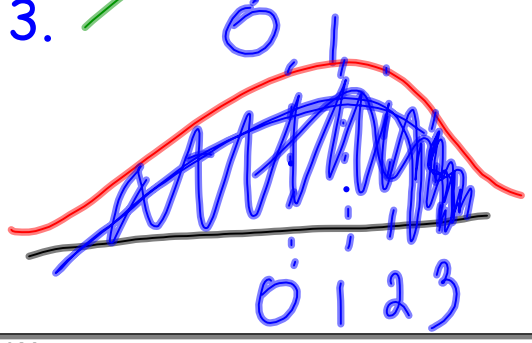
Draw a curve when z = 1.

$P(z \leq 1)$



Draw a curve when z = 3.

$P(z \leq 3)$



Nov 7-10:45 AM

Using the Standard Normal Distribution

There are extensive tables for the Standard Normal Distribution.

- We can determine probabilities for normal distributions:
- Transform the measurement to a *z* score.
- Utilize Table 3 of the Appendix.

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Using the Standard Normal Table

- Table 3(a) gives the cumulative area for a given *z* value.
- When calculating a *z* Score, round to 2 decimal places.
- For a *z* Score less than –3.49, use 0.000 to approximate the area.
- For a *z* Score greater than 3.49, use 1.000 to approximate the area.

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Area to the Left of a Given *z* Value

Use Table 3 of the Appendix directly.

Negative Z-scores

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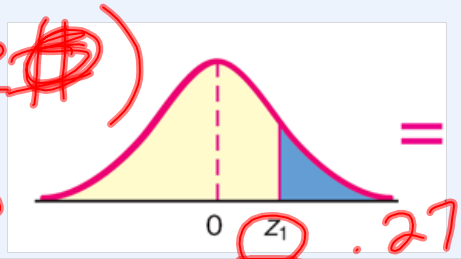
Area to the Right of a Given z Value

$P(z \geq \#)$

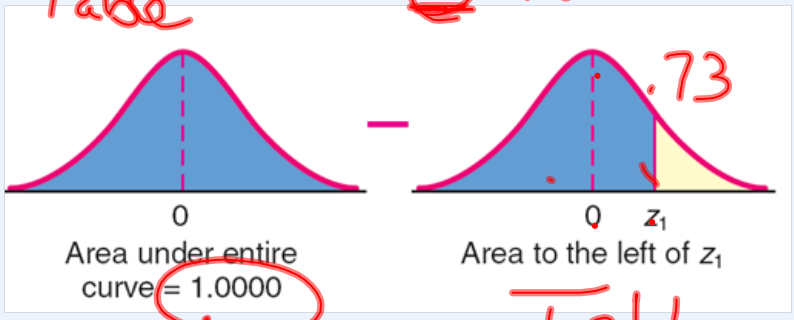
$1 - \text{Prob}$

Table



=

.27



−

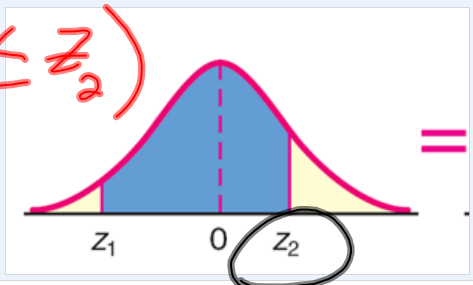
.73

Table

Nov 5-3:20 PM

Area Between Two z Values

$P(z_1 \leq x \leq z_2)$



=

.60

.75

−

.15

Nov 5-3:20 PM

Using a *z* Table

Using Table 3 in the Appendix , find the probability that $z > 0.9$.

2 Answer?

a). 0.22 b). 0.09

c). 0.65 d). 0.18

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