

List of Formulas, Procedures and Boxes for Quiz 1, February 26

(Quiz 1 will be on Wednesday, February 26, and covers material from Chapters 5.1, 5.2, 5.3, 5.4, and 5.5.)

Math 125 Kovitz Spring 2025

From Text

Box on page 79.

The top 2 paragraphs on page 80, up to and including Example 1(a). **This is a key idea.**

Procedure of Example 4 on page 83.

Procedure of Example 8 on pages 85 and 86.

{Note particularly the use of the previously unstated formula $(59 - 63.5)/3$.}

Procedure of Example 10 on pages 90 and 91

Formulas

Conversion to Standard Units

A value is converted to standard units by seeing how many SDs it is above or below the average.

The formula is: $\text{standard units} = \frac{\text{observation} - \text{average}}{\text{SD}}$.

Finding Areas under the Normal Curve

An area from minus a value to plus the same value is read off from the Normal Table; other areas are found by making a sketch and expressing the desired area in terms of areas that may be found by using the Table.

This procedure is called the normal approximation.

The Normal Approximation for Data

If a histogram follows the normal curve, approximate areas may be found by converting the endpoints to standard units and finding the appropriate areas under the normal curve by using the Table.

Percentiles

A percentile is a member of the distribution which has that percent of the distribution (or that percent of the area under the curve) below it.