**Unit 5: Statistical Reasoning**

**Assessment Standards**

**Statistics**

**Specific Outcome 1. Demonstrate an understanding of normal distribution, including:**

• standard deviation • *z*-scores. [CN, PS, T, V] [ICT: C6–4.1, C7–4.2]

1.1 Explain, using examples, the meaning of standard deviation.

1.2 Calculate, using technology, the population standard deviation of a data set.

1.3 Explain, using examples, the properties of a normal curve, including the mean, median, mode, standard deviation, symmetry and area under the curve.

1.4 Determine if a data set approximates a normal distribution, and explain the reasoning.

1.5 Compare the properties of two or more normally distributed data sets.

1.6 Explain, using examples representing multiple perspectives, the application of standard deviation for making decisions in situations such as warranties, insurance or opinion polls.

1.7 Solve a contextual problem that involves the interpretation of standard deviation.

1.8 Determine, with or without technology, and explain the *z*-score for a given value in a normally distributed data set.

1.9 Solve a contextual problem that involves normal distribution.

**Specific Outcome 2. Interpret statistical data, using:**

confidence intervals

confidence levels

margin of error.

*(It is intended that the focus of this outcome be on interpretation of data rather than on statistical calculations.)*

2.1 Explain, using examples, how confidence levels, margin of error and confidence intervals may vary depending on the size of the random sample.

2.2 Explain, using examples, the significance of a confidence interval, margin of error or confidence level.

2.3 Make inferences about a population from sample data, using given confidence intervals, and explain the reasoning.

2.4 Provide examples from print or electronic media in which confidence intervals and confidence levels are used to support a particular position.

2.5 Interpret and explain confidence intervals and margin of error, using examples found in print or electronic media.

2.6 Support a position by analyzing statistical data presented in the media.

**What do the Student know from Math 10-C?**

**Nothing**

**What do Student know from Math 20-1?**

**Nothing**

**What is Coming in Math 30-2**

**Nothing**