A. Explain how a score distribution for a group of examinees may be characterized with measures of central tendency and measures of variability.
B. Compute and interpret common measures of central tendency and measures of variability.
C. Recognize the meanings of terms such as *discrete variable, continuous variable, frequency, cumulative frequency, cumulative probability, measures of central tendency, measures of variability, expected value, normal curve, standard normal curve, raw score, deviation score, z-score, correlation coefficient, scatterplot, regression coefficient, prediction equation, standard error of the estimate,* and *homoscedasticity.*
D. Convert raw scores to deviation scores and *z*-scores.
E. Relate *z*-scores based on a normal distribution to areas under the normal curve by using a standard, normal *z*-table.
F. Recognize situations where *z*-scores may be more useful than raw scores.
G. Use scatterplots to make interpretations about the nature of the relationships among the variables.
H. Compute and interpret correlation coefficients.
I. Explain the relationship between a scatterplot and its regression line.
J. Compute the values of slope and intercept of a regression line for a data set, and use these in construction of the line.
K. Use the regression equation to estimate an individual's predicted values on a criterion variable, given the score on a predictor variable.
L. Use the standard error of estimate to generate a confidence band around a predicted criterion score value.

	Distribution Parameters	Normal Distribution	Correlation/Regression	
Knowledge				10%
Comprehension				30%
Application				60%
	35%	15%	50%	

2. Assume that you wanted to construct a test covering the statistics unit by using the preceding table of specifications. You have time to administer a 30-item test.
   A. Approximately what percentage of items should be written at the levels of knowledge, comprehension, and application, respectively?
   B. Approximately what percentage of items should cover the topics of basic distribution descriptors and correlation, respectively?
   C. Approximately what percentage of items should cover correlation and regression at the application level?
3. Review the item specification presented in Figure 4.1. Develop a similar specification for the subskill "Demonstrates an ability to subtract decimals."
4. A. Consider the following problem from the exam of a high school physics class: "A quantity of gas was collected over water at 16°C. The pressure of the mixture of gases was 982.9 torr. The water vapor was removed and the remaining gas had a partial pressure of 969.3 torr. What is the vapor pressure of water at 16°C." If the teacher