Describing data numerically and graphically				
4	**3**	**2**	**1**	**0**
Can extend thinking beyond the standard, including tasks that may involve one of the following: • Designing • Connecting • Synthesizing • Applying • Justifying • Critiquing • Analyzing • Creating • Proving	Construct and interpret <u>all of the following</u> • Pie charts • Bar graphs • Two way tables using marginal distributions • Two way tables using conditional distributions • Dot plot/Stem plot • Histogram • Box plot Calculate, interpret and compare • Shape • Center • Spread • Outliers <u>Using correct academic vocabulary</u>	Construct and interpret <u>6 of the following</u> • Pie charts • Bar graphs • Two way tables using marginal distributions • Two way tables using conditional distributions • Dot plot/Stem plot • Histogram • Box plot Calculate, interpret <u>and compare</u> • Shape • Center • Spread • Outliers	Construct and interpret <u>5 of the following</u> • Pie charts • Bar graphs • Two way tables using marginal distributions • Two way tables using conditional distributions • Dot plot/Stem plot • Histogram • Box plot Calculate and interpret • Shape • Center • Spread • Outliers	Little evidence of reasoning or application to solve the problem Does not meet the criteria in a level 1

Modeling distributions of data				
4	3	2	1	0
Can extend thinking beyond the standard, including tasks that may involve one of the following: • Designing • Connecting • Synthesizing • Applying • Justifying • Critiquing • Analyzing • Creating • Proving	For given data set(s) describe and interpret <u>all of the following:</u> • Percentiles • A cumulative relative frequency graph • Z-scores • Comparing scores from different distributions • Effects on the shape, center, and spread when data is transformed For a data set that is continuous, determine and interpret <u>all of the following:</u> • Density curves • Empirical rule • Areas and percentiles • Normal distribution calculations in context • Assessment of Normality	For given data set(s) describe <u>and interpret</u> 4 of the following: • Percentiles • A cumulative relative frequency graph • Z-scores • Comparing scores from different distributions • Effects on the shape, center, and spread when data is transformed For a data set that is continuous, determine <u>and interpret</u> 4 of the following: • Density curves • Empirical rule • Areas and percentiles • Normal distribution calculations <u>in context</u> • Assessment of Normality	For given data set(s) describe <u>4 of the following:</u> • Percentiles • A cumulative relative frequency graph • Z-scores • Comparing scores from different distributions • Effects on the shape, center, and spread when data is transformed For a data set that is continuous, determine <u>4 of the following:</u> • Density curves • Empirical rule • Areas and percentiles • Normal distribution calculations • Assessment of Normality	Little evidence of reasoning or application to solve the problem Does not meet the criteria in a level 1

Describing relationships between two numerical variables				
4	3	2	1	0
Can extend thinking beyond the standard, including tasks that may involve one of the following: • Designing • Connecting • Synthesizing • Applying • Justifying • Critiquing • Analyzing • Creating • Proving	For a scatterplot, construct and describe the • Direction, form and strength of the pattern • Correlation • Outliers and influential observations Determine the least-squares regression line • With use of technology • From summary statistics • From computer output and interpret • the slope • y-intercept • residuals Use least-squares regression line to • predict values of the response variable • explain the dangers of extrapolation Assess the reliability of the regression line using • residual plots • standard deviation of the residuals • r^2	For a scatterplot, construct and describe the • Direction, form and strength of the pattern • Correlation • Outliers Determine the least-squares regression line • With use of technology • From summary statistics • From computer output and interpret • the slope • y-intercept • residuals Use least-squares regression line to • predict values of the response variable • explain the dangers of extrapolation Assess the reliability of the regression line using 2 of the following: • residual plots • standard deviation of the residuals • r^2	For a scatterplot, construct and describe the • Direction, form and strength of the pattern • Correlation • Outliers Determine the least-squares regression line from 2 of the following: • With use of technology • From summary statistics • From computer output and interpret • the slope • y-intercept • residuals Use least-squares regression line to • predict values of the response variable • explain the dangers of extrapolation	Little evidence of reasoning or application to solve the problem Does not meet the criteria in a level 1