NCTM Content Standards Assessment Rubric

Data Analysis and Probability

Student's Name: _____ Assignment: _____ Level: _____

	Level 1	Level 2	Level 3	Level 4
Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them	• Demonstrates a limited ability to formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them	• Demonstrates a basic ability to formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them	• Demonstrates a good ability to formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them	• Demonstrates a thorough ability to formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them
Select and use appropriate statistical methods to analyze data	• Demonstrates a limited ability to select and use appropriate statistical methods to analyze data	• Demonstrates a basic ability to select and use appropriate statistical methods to analyze data	• Demonstrates a good ability to select and use appropriate statistical methods to analyze data	• Demonstrates a thorough ability to select and use appropriate statistical methods to analyze data
Develop and evaluate inferences and predictions that are based on data	• Demonstrates a limited ability to develop and evaluate inferences and predictions that are based on data	• Demonstrates a basic ability to develop and evaluate inferences and predictions that are based on data	• Demonstrates a good ability to develop and evaluate inferences and predictions that are based on data	• Demonstrates a thorough ability to develop and evaluate inferences and predictions that are based on data
Understand and apply basic concepts of probability	• Demonstrates a limited ability to understand and apply basic concepts of probability	• Demonstrates a basic ability to understand and apply basic concepts of probability	• Demonstrates a good ability to understand and apply basic concepts of probability	• Demonstrates a thorough ability to understand and apply basic concepts of probability

STRENGTHS:

WEAKNESSES:

NEXT STEPS:

SAMPLE

Task Sheet 4

4) Ask 30 people what their favorite car is. In the circle graph below, display the data you collected.

SAMPLE

Express your answers in a ratio and a percent

	Ratio	Percent

a) How many people chose a domestically made car?

b) How many chose a foreign made car?

c) How many were sports cars?

d) Create three questions of your own that can be answered by the data in the graph.

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Review A

Palmer has a bag of marbles. He has 20 marbles in his bag. He has 12 red marbles, 6 orange marbles, and 2 yellow marbles.

Show the probability of choosing each marble in fractions and percentages.

		Fraction	**Percent**
a)	**Choosing a red marble.**		
b)	**Choosing an orange marble.**		
c)	**Choosing a yellow marble.**		
d)	**Choosing an orange or yellow marble.**		

e) **What other questions can you ask and show as a fraction or percent for the marbles in Palmer's bag?**

SAMPLE

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Reflection Express the mean, median, mode, and range for the marbles in Palmer's bag. Are these findings significant? Explain.
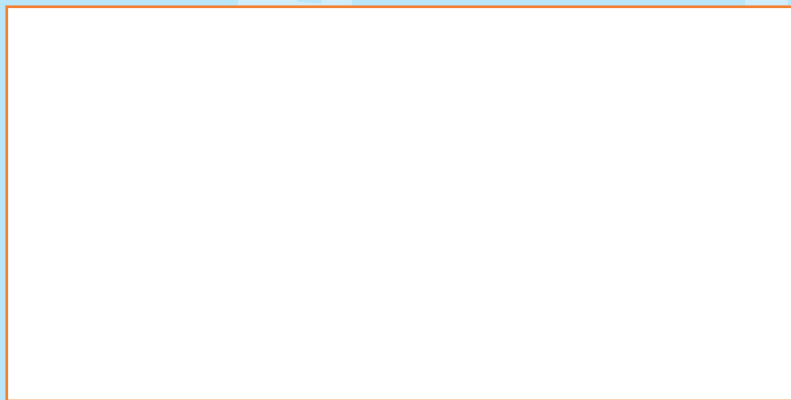
Bar and Pictograph

In Berryville, residents grow blueberries. The Phan's grow 752 blueberry bushes. The Edgar's grow 350 blueberry bushes. The Martel's and the Vanderbilt's both have 800 blueberry bushes. The Caspian's and the McDougal's have 500 blueberry bushes each.

Create a bar graph and a pictograph to display this information.

SAMPLE

Key: