

Open-Ended Template

Names: Beth Anne Balach, Nancy DiStefano, Kim Haley, and Mary Krill

Grade Level: 3-5

Content Area: Statistics and Data Analysis

PA Standard(s) addressed:

2.6.5.A. Organize and display data using pictures, tallies, tables, charts, bar graphs and circle graphs.

2.6.5.B. Describe data sets using mean, median, mode and range.

NCTM Standard(s) addressed:

- 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.

Problem Name: \$\$\$ MAD MONEY \$\$\$

Problem:

The twenty-six students in Room 213 visited an amusement park for the day. Nine of the students spent the following amounts of money on games, snacks and rides.

NAME	MONEY SPENT
Joe	\$ 33
Mary	\$ 8
Jose'	\$ 22
Brian	\$ 28
Tom	\$ 5
Tia	\$ 35
Roberto	\$ 37
Gina	\$ 22
Kayla	\$ 26

Directions:

Part A: Use the above data to create a stem and leaf plot.

- Remember to include a title.

Part B: Using the data given find the range, mode, median, and mean.

- Show any math work you did to arrive at your answer.
- Explain how you arrived at each answer.
- Write your answers in the box below.
- Show answers in dollar amounts.

Range	_____
Mode	_____
Median	_____
Mean	_____

Problem Solution(s):

Part A:

* Amounts of Money Spent at the Amusement Park

0	5 8
1	
2	2 2 6 8
3	3 5 7

* Acceptable titles should reflect information presented in the problem.

Part B: Range \$32 $\$37 - \$5 = \$32$

Mode \$22 \$22 occurs most often in the set of data.

Median \$26 5 8 22 22 **26** 28 33 35 37

26 is the number that falls exactly in the middle of the data.

Mean \$24

5	
8	
22	
22	
26	216/9 = 24
28	
33	
35	
<u>+ 37</u>	
216	

To obtain the highest score, students must include work and an explanation of how each of the answers was found. Clear understanding of the terms range, mode, median, and mean should be evident.

Scoring the Rubric:

Part A: Three Points

Stem and Leaf Plot

3 points- Stem and leaf plot is complete with a title reflecting the information presented in the problem (A key may be included but not required)

2 points- Stem and leaf plot is complete with no written and/or appropriate title

1 point- An attempt was made to construct a stem and leaf plot

Part B: Seven Points

Range

2 points- Correct computation, label, and clear explanation

1 point- Two of the above are correct

Mode

1 point- Correct answer with label

Median

1 point- Correct answer with label

Mean

3 points- Correct computation, label, and clear explanation

2 points- Two of the above are correct

1 points- One of the above is correct

Specific Rubric:

5. Advanced Understanding:

- Attains 10 points

4. Satisfactory Understanding:

- Attains 8 or 9 points

3. Almost Satisfactory Understanding:

- Attains 6 or 7 points

2. Partial Understanding:

- Attains 3 to 5 points

1. Minimal Understanding:

- Attains 1 or 2 points

0. No Understanding:

- Attains 0 points