Measures of Central Tendency
MCAS Worksheet 1

1. Which of the following sets of data has a median of 17.5?

   A. {10.0, 17.5, 14.0, 16.0, 27.5}
   B. {12.5, 26.0, 17.5, 11.5, 10.5}
   C. {13.0, 17.5, 15.0, 15.5, 17.5}
   D. {14.5, 19.5, 16.0, 17.5, 24.0}

   Mark your answer here: 1. ③②①④

2. The number of hours Nadia spent painting each day during a one-week period are shown below.

   1.5, 4.25, 1.0, 3.75, 6.0, 0.75, 0.25

   What is the mean number of hours per day that Nadia spent painting for this week?

   A. 1.5
   B. 2.5
   C. 3.75
   D. 5.75

   Mark your answer here: 2. ①③②④

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All test items have been released to the public by the Massachusetts Department of Elementary and Secondary Education.
3. The mean of four numbers is 70. When a fifth number is included, the mean of the five numbers is 80. What is the fifth number?
   A. 40
   B. 90
   C. 120
   D. 250

Mark your answer here: 3. ③④①②

4. The chart below shows the frequency distribution of scores on an American History quiz.

<table>
<thead>
<tr>
<th>Quiz Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score</td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>5</td>
</tr>
</tbody>
</table>

What was the median score earned on the quiz?
   A. 2.5
   B. 3.0
   C. 3.5
   D. 4.0

Mark your answer here: 4. ③④①②
At a horseback riding competition in the Olympics, each rider receives a score from 2 judges. The final score for each rider is the mean of the 2 judges’ scores.

Maddy was one of the riders in the competition. If one judge awarded Maddy a score of 87, and Maddy’s final score was 84.5, what score did the other judge award Maddy?

A. 82  
B. 86  
C. 87  
D. 90

A “wheat penny” is a United States penny that has a picture of wheat on one side. These pennies were only produced from 1909 through 1958.

The members of a coin-collecting group counted the number of wheat pennies in each of their collections. The line plot below shows the number of wheat pennies in each member’s coin collection.

What is the mode of the data in the line plot?

Write your answer here:
Aimee, Darlene, Percy, and Sinclair went bowling. Their scores for 4 games are shown in the table below.

### Bowling Scores

<table>
<thead>
<tr>
<th>Name</th>
<th>Game 1</th>
<th>Game 2</th>
<th>Game 3</th>
<th>Game 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aimee</td>
<td>165</td>
<td>140</td>
<td>170</td>
<td>130</td>
</tr>
<tr>
<td>Darlene</td>
<td>120</td>
<td>140</td>
<td>125</td>
<td>140</td>
</tr>
<tr>
<td>Percy</td>
<td>115</td>
<td>130</td>
<td>160</td>
<td>160</td>
</tr>
<tr>
<td>Sinclair</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>165</td>
</tr>
</tbody>
</table>

a. What is the range of Aimee’s scores for the 4 games? Show or explain how you got your answer.

b. Who had the greatest median score for the 4 games? Show or explain how you got your answer.

c. Who had the greatest mean score for the 4 games? Show or explain how you got your answer.

d. After Darlene bowled 2 more games, her mean score for all 6 games was 135. What could her scores for each of those 2 games have been? Show or explain how you got your answer.