Coordinate Algebra Practice EOCT Answers Unit 4
This table shows the average low temperature, in ºF, recorded in Macon, GA, and Charlotte, NC, over a six-day period. Which conclusion can be drawn from the data.

<table>
<thead>
<tr>
<th>Day</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature in Macon, GA (in ºF)</td>
<td>71</td>
<td>72</td>
<td>66</td>
<td>69</td>
<td>71</td>
<td>73</td>
</tr>
<tr>
<td>Temperature in Charlotte, NC (in ºF)</td>
<td>69</td>
<td>64</td>
<td>68</td>
<td>74</td>
<td>71</td>
<td>75</td>
</tr>
</tbody>
</table>

A. The interquartile range of the temperatures is the same for both cities.
B. The lower quartile for the temperatures in Macon is lower than the lower quartile for the temperatures in Charlotte.
C. The mean and median temperatures of Macon were higher than the mean and median temperatures of Charlotte.
D. The upper quartile for the temperatures in Charlotte was lower than the upper quartile for the temperatures in Macon.
B. The lower quartile for the temperatures in Macon is lower than the lower quartile for the temperatures in Charlotte.

**Macon, GA**

```
66  69  71
```

LQ = 69

**Median**

```
71  72  73
```

**Charlotte, NC**

```
64  68  69
```

LQ = 68

**Median**

```
71  74  75
```
D. The upper quartile for the temperatures in Charlotte was lower than the upper quartile for the temperatures in Macon.

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**Macon, GA**

- Median: 71
- UQ: 72

**Charlotte, NC**

- Median: 71
- UQ: 74
The interquartile range is the same for both cities.

**Macon, GA**

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LQ = 69

Median

UQ = 72

**Interquartile Range** = UQ – LQ = 72 – 69 = 3

**Macon, GA**

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LQ = 68

Median

UQ = 74

**Interquartile Range** = UQ – LQ = 74 – 68 = 6
C. The mean and **median** temperatures of Macon were **higher** than the mean and **median** temperatures of Charlotte.

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**Macon, GA**

\[
\text{Median} = \frac{71 + 71}{2} = \frac{142}{2} = 71
\]

**Macon, GA**

\[
\text{Median} = \frac{69 + 71}{2} = \frac{140}{2} = 70
\]
C. The mean and median temperatures of Macon were higher than the mean and median temperatures of Charlotte.

Macon, GA

\[
\text{Mean} = \frac{66 + 69 + 71 + 71 + 72 + 73}{6} = \frac{442}{6} = 70.3
\]

Macon, GA

\[
\text{Mean} = \frac{64 + 68 + 69 + 71 + 74 + 75}{6} = \frac{421}{6} = 70.2
\]

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A school was having a coat drive for a local shelter. A teacher determined the median number of coats collected per class and the interquartile ranges of the number of coats collected per class for the freshmen and for the sophomores.

- The freshmen collected a median number of coats per class of 10, and the interquartile range was 6.
- The sophomores collected a median number of coats per class of 10, and the interquartile range was 4.

Which range of numbers includes the third quartile of coats collected for both classes?

A. 4 to 14
B. 6 to 14
C. 10 to 16
D. 12 to 15
A reading teacher recorded the number of pages read in an hour by each of her students. The numbers are shown below. For this data, which summary statistic is NOT correct?

A. The minimum is 39. ☹️
B. The lower quartile is 44.
C. The median is 45. ☹️
D. The maximum is 51. ☹️

Minimum = 39
Maximum = 51
Median = 45

Lower Quartile (LQ) = \( \frac{43 + 44}{2} = \frac{87}{2} = 43.5 \)
A science teacher recorded the pulse rates for each of the students in her classes after the students had climbed a set of stairs. She displayed the results, by class, using the box plots shown. Which class *generally* had the highest pulse rates after climbing the stairs?

A. Class 1  
B. Class 2  
C. Class 3  
D. Class 4
Peter went bowling, Monday to Friday, two weeks in a row. He only bowled one game each time he went. He kept track of his scores below.

Week 1: 70, 70, 70, 73, 75
Week 2: 72, 64, 73, 73, 75

The score of 64 is an outlier, significantly decreasing the mean.

What is the BEST explanation of why Peter’s Week 2 mean score was lower than his Week 1 mean score?

A. Peter received the same score three times in Week 1.
B. Peter had one very low score in Week 2.
C. Peter did not beat his high score from Week 1 in Week 2.
D. Peter had one very high score in Week 1.
This histogram shows the frequency distribution of duration times for 107 consecutive eruptions of the Old Faithful geyser. The duration of an eruption is the length of time, in minutes, from the beginning of the spewing of water until it stops. What is the BEST description for the distribution?

A. bimodal
B. uniform
C. multiple outlier
D. skewed to the right
Types of Distribution

B. Uniform

C. Multiple Outlier
A. Bimodel

A Bimodel histogram has two data peaks.

D. Skewed to the right
Which graph MOST clearly displays a set of data for which a linear function is the model of best fit?

A. Has a linear correlation

B. Scatter plot closer to graph of a line

C. Has a strong linear correlation

D. -
This graph plots the number of wins in the 2006 and 2007 seasons for a sample of professional football teams. Which equation BEST represents a line that matches the trend of this data?

A. $y = \frac{1}{2}x$
B. $y = \frac{1}{2}x + 8$
C. $y = 2x - 6$
D. $y = 2x - 12$

**Strategy**

Find two points on each equation by substituting values of $x$ and solving for $y$. Connect the points to determine which line best fits the scatter plot.
This graph plots the number of wins in the 2006 and 2007 seasons for a sample of professional football teams. Which equation BEST represents a line that matches the trend of this data?

A. \( y = \frac{1}{2} x \)

Substitute \( x = 8 \)  
\[
y = \frac{1}{2}(8) \]
\[
y = 4
\]
Point: (8,4)

Substitute \( x = 12 \)  
\[
y = \frac{1}{2}(12) \]
\[
y = 6
\]
Point: (12,6)
This graph plots the number of wins in the 2006 and 2007 seasons for a sample of professional football teams. Which equation BEST represents a line that matches the trend of this data?

B. \[ y = \frac{1}{2} x + 8 \]

Substitute \( x = 8 \)

\[ y = \frac{1}{2} (8) + 8 \]
\[ y = 4 + 8 \]
\[ y = 12 \]

Point: \((8,12)\)

Substitute \( x = 12 \)

\[ y = \frac{1}{2} (12) + 8 \]
\[ y = 6 + 8 \]
\[ y = 14 \]

Point: \((12,14)\)
This graph plots the number of wins in the 2006 and 2007 seasons for a sample of professional football teams. Which equation BEST represents a line that matches the trend of this data?

\[ y = 2x - 6 \]

Substitute \( x = 8 \)

\[ y = 2(8) - 6 \]

\[ y = 16 - 6 \]

\[ y = 10 \]

Point: (8,10)

Substitute \( x = 12 \)

\[ y = 2(12) - 6 \]

\[ y = 24 - 6 \]

\[ y = 18 \]

Point: (12,18)
This graph plots the number of wins in the 2006 and 2007 seasons for a sample of professional football teams. Which equation BEST represents a line that matches the trend of this data?

D. \( y = 2x - 12 \)

Substitute \( x = 8 \)  
\[
y = 2(8) - 12 \\
y = 16 - 12 \\
y = 4 \\
\text{Point: } (8,4)
\]

Substitute \( x = 12 \)  
\[
y = 2(12) - 12 \\
y = 24 - 12 \\
y = 12 \\
\text{Point: } (12,12)
\]
This graph plots the number of wins in the 2006 and 2007 seasons for a sample of professional football teams. Based on the regression model, what is the predicted number of 2007 wins for a team that won 5 games in 2006?

A. 0  
B. 3  
C. 8  
D. 10

Note:
The teams that won games in 2006 and 2007 are represented by the black dots.

There were no teams on the graph in 2006 that won 5 games. Therefore, there will be no teams in 2007 that will win games.
Which BEST describes the correlation of the two variables shown in the scatter plot?

A. weak positive
B. strong positive
C. weak negative
D. strong negative