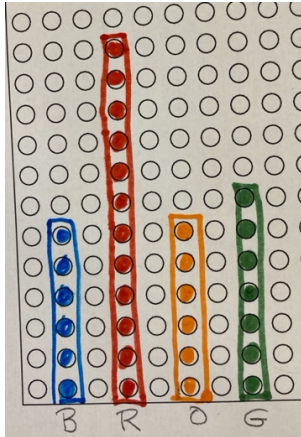


Brick Math *Data and Statistics*
Chapter Assessments Answer Key

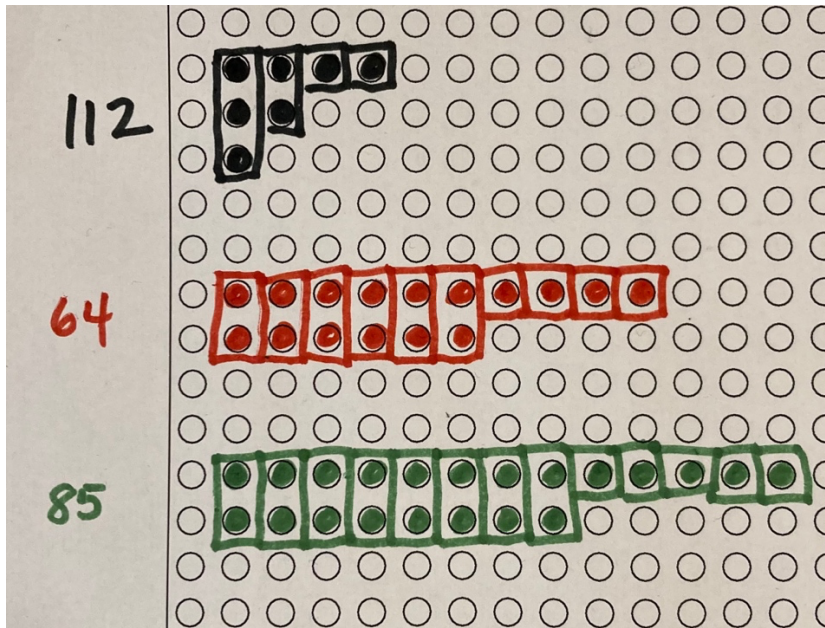
Chapter 1

1. John counted 6 blue cars, 12 red cars, 6 orange cars and 7 green cars.



2. a. $123 < 231$
 b. $5.54 > 4.55$
 c. $1,234 < 2,134$

3.

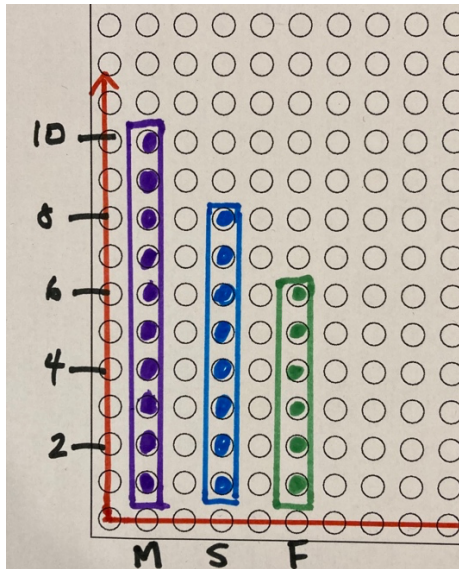


Responses will vary. Possible math statements could include:

- soccer > either football or baseball
- $112 > 64$
- $112 > 85$

Chapter 2

1.



Responses will vary. Possible responses could include:

- How many more monkeys are there than fish?
- What is the combined number of monkeys, snakes, and fish in the zoo?
- What pattern do you see in the data?

2. A line plot is a way to show data visually so it can be compared.

Chapter 3

1. A bar graph shows discrete data; a histogram shows continuous data.

2. Discrete data can be counted using one-to-one correspondence, but continuous data is in a range of values.

3. Responses will vary. Possible math statements could include:

- The number of people who like playing > than any of the other activities
- The reading activity has the least number of data points
- The data shows this order of preference of the activities: Playing > Walking the dog > Baking > Reading

4. Chart A: bar chart

Chart B: histogram

Chapter 4

1. The mean is the average of the data points in a set.

2. The mean is 6.

Add all the data points in the set and divide by the total number of data points. There are 6 data points.

$$2 + 3 + 5 + 16 + 2 + 8 = 36$$

$$36/6 = 6$$

3. The mean is 5.5.

Add all the data points in the set and divide by the total number of data points. There are 6 data points.

$$2.34 + 3.23 + 6.26 + 4.50 + 4.50 + 12.17 = 33$$

$$33/6 = 5.5$$

Chapter 5

1. The median is the midpoint or middle of a data set.

2. To find the median: start by putting the data in order from least to greatest. Then find the middle number. If there is an even number of data points, the middle of the set falls between two numbers. In that case, find the mean of the two middle numbers and that is the median of the data set.

3. The median is 24.

Chapter 6

1. The mode is the data point that is found the most often in a set of data. It describes where most of the data lies in relationship to the entire data set.

2. Put the data points in order least to greatest.

3. 12, 12, 12, 15, 15, 23, 23, 23, 23, 34, 34, 34, 56, 56

The mode is 23 because it appears the most often in the data set (4 times).

Chapter 7

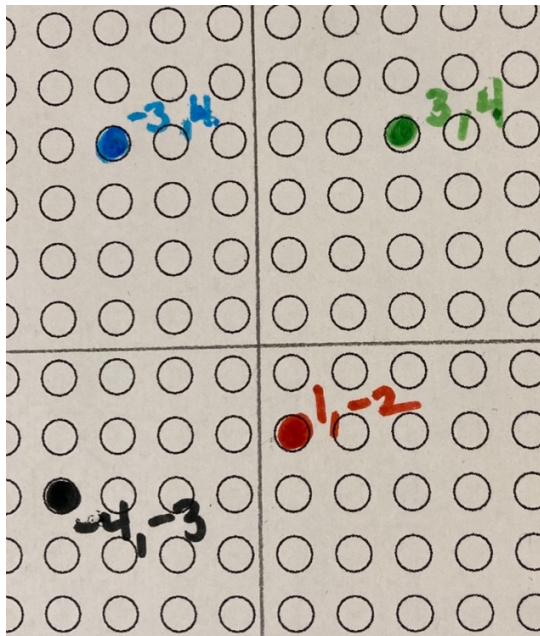
1. The range shows the spread of the data between the highest point and the lowest point.
2. To find the range, put the data in order from least to greatest, and then subtract the lowest value from the highest value.
3. The range of the data set is 62. (3, 12, 14, 23, 25, 34, 34, 36, 45, 56, 65)
Math sentence: $65 - 3 = 62$

Chapter 8

1. A box plot makes the five-number summary visual, which helps show a distribution.
2. Pink dots show upper extreme and lower extreme
Green dots show upper quartile and lower quartile
The blue dot is the mean

Chapter 9

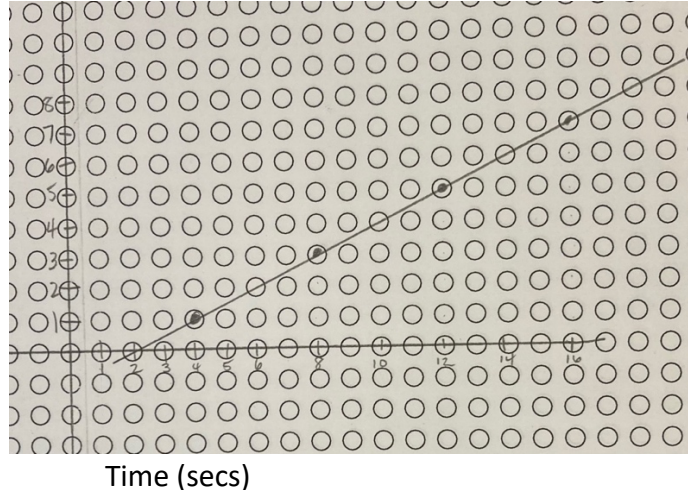
1. 3
2. -6
- 3.



Chapter 10

1. The purpose of a line graph is to show how data changes over time.

2. Distance (cm)



To interpret the data: Solutions will vary, but possible responses include:

- The inchworm moves at a consistent rate of speed (2 cm per second)
- The inchworm has continued to move for at least 16 seconds

Chapter 11

1. A scatter plot helps show how two categories in a set of data are related.

2. Chart A: positive correlation
Chart B: negative correlation
Chart C: no correlation

Chapter 12

1. The slope indicates the rate of change in y per unit change in x.

2. Slope is defined by rise over run: $(y_2 - y_1) / (x_2 - x_1)$. The coordinates of two points on a line are needed to determine the slope.

3. The slope is $-\frac{1}{2}$

Using the formula for slope: $\frac{3-1}{0-4} = \frac{2}{-4} = -\frac{1}{2}$

Chapter 13

1. Probability is the chance that an event will occur. It is important because it provides information about our events in our daily lives and helps us assess the likelihood the event will occur so we can prepare for it.
2. Theoretical probability comes from numerical data and experimental probability comes from an experimental trial.
3.
 - a. $5/20$ or $1/4$
 - b. $15/20$ or $3/4$