

Stations Activity

In 2017, the New England Patriots played 20 games during the regular season. Below are the points for each game.

4	23	30	38	27	36	36	30
23	21	41	33	35	23	20	27

Use the data set to find the mean, range.

B) Make a box and whisker plot of the data.

C) Find the inter-quartile range.

Your final grade in Algebra 2 is weighted based on five categories: 50% Tests, 15% Homework, 5% Computer/Math Lab, 10% Semester Exam and 20% Final Exam. Scores for each category are shown in the table:

Test	Homework	Computer Lab	Semester Exam	Final Exam
82	92	96	85	87

A) Find the weighted mean of your scores to calculate your final grade.

B) You found an error in your calculation. What should you do?

Use your reasoning skills. Without calculating exact amounts:

A) Which data set has the greatest sample standard deviation? Which has the least sample standard deviation? Explain how you know.

B) How are the data sets the same? How are they different?

(I.)

(II.)

10

Monica recorded her time spent on the internet, in minutes per day, for a 10-day period.

51.3	52.4	53.1	59.2	49.5
51.7	53.8	51.6	54.4	60.7

A) Find the mean and standard deviation for her activity.

B) How many data values fall within one standard deviation?

3



Data Analysis

FLAMINGO MATH

Thanks for downloading my product!
Be sure to follow me for new products, free items and upcoming sales.

www.teacherspayteachers.com/Store/Jean-Adams
www.flamingomath.com
www.pinterest.com/jeanfaye/

Data Analysis & Statistics Station Activity

Who doesn't love a class day to work cooperatively? It's such a great way to get your students up and moving around the room or hallway. An added benefit is that you are able to listen to your students discussing their understanding from the unit.

There are 10 stations in this activity for Algebra 2 Honors. Students will find measures of central tendency, make box-and-whisker plots, find z-scores, standard deviation, weighted averages, analyze data, find sample proportions, margin of error, intervals where true population proportions occur, probability of events, expansion of binomials using the Binomial Theorem and Pascal's Triangle.

The Station Activity can be completed individually or in cooperative groups. Simply assign each group a beginning station. There is a student recording sheet. After the allotted time, have them move to the next station card until all 10 task cards are completed. A student recording sheet is provided. There is also a set of black and white task cards if you do not have access to a color printer.

Data Analysis & Statistics Station Activity

Directions:

- 1) Print either the color version or the black and white version of the station cards.
- 2) You may laminate the cards on colored card stock, or place each station into a clear sheet protector.
- 3) Copy a recording sheet for each student and/or group of students.
- 4) The activity can be used in the following ways:
 - Place one card at each station (10 stations) and have students move in groups of 3-4 from station to station. Allow about 4 minutes at each station.
 - Copy the stations at a reduced size and place students in pairs. Give them a set of small cards to complete. Circulate to offer assistance as they work.
 - Have students rotate through stations and ask them to get their answers verified with your signature before moving to another station. You will need to have extra card sets for slower groups.
 - Have groups go through the circuit and create a single answer key for the group. Require that each group member be responsible for some portion of the activity. Offer the group with the highest score a bonus for the test on this unit. I like to give 5 points for the first place group, 4 points for second place, etc.
- 5) When time is called, review the answers with the students by showing the answer key, or through a discussion, or have the Answer Key posted on the overhead for students to check their answers.



In 2017, the New England Patriots played 20 games during the regular season. Below are the points scored for each game.

24	23	30	38	27	36
23	21	41	33	35	23

- Use the data set to find the range.
- Make a box and whisker plot.
- Find the inter-quartile range.

Data Analysis & Statistics

Name _____

Directions: Show work for each station's task card in the designated spaces below.

1.

2.

3.

4.

5.



- The mean test score on your last test was 67. The standard deviation was 17.5. Determine the number of standard deviations that include all data values shown below:

62	65	68	72
84	91	96	

mean of 102 and a standard

data value of 135.

mean of 102 and a
12. What is the
score of 2.5?

2

© 2018 Flamingo Math™ (Jean Adams)

Monica recorded her time spent per day, for a 10-day period.

51.3	52.4	53.1
51.7	53.8	51.6

- Find the mean and standard deviation for her activity.
- How many data values fall within one standard deviation?
- Two standard deviations?

Scores on your Algebra 2 Final Exam are normally distributed, with a mean of 76 and a standard deviation of 9. Your school tested 315 students.

- How many students scored above 94%?
- How many students scored below 67%?
- How many students fall within one standard deviation of the mean?
- How many students fall between two and three standard deviations of the mean?

9

© 2018 Flamingo Math™ (Jean Adams)

A sample of 14 teens enrolled in a weight shows the number of weeks it took to reach weight.

4.5	24	15	14.5	21.5
19.5	30.5	6.5	31	32.5

- Find the mean, median, mode, and range of the data.
- Determine which measure of central tendency best represents the data. Explain your reasoning.

Your sociology project requires a survey of 20 families in your neighborhood related to using cell phones while eating with family members at a restaurant. A study that was shared in class, 58% of families use cell phones while dining out in a restaurant. Find each probability:

- P(10 of 20 families allow cell phones during meals)
- P(15 of 20 families permit cell phones at the restaurant)
- P(at least 7 of 20 families allow cell phones)?

7

© 2018 Flamingo Math™ (Jean Adams)

error on your test average. It was 92 not 82. What is the new error? Did your letter grade change in your reasoning?

4

© 2018 Flamingo Math™ (Jean Adams)

Example: A sample proportion, p , is used to estimate the true population proportion, P . The margin of error, E , is the likely to contain the true population proportion. (Note: round answers to the nearest percent)

180 students, 129 prefer texting friends rather than calling them.

- In a survey of 235 students, 187 believe school resource officers have a positive influence in their school.

180 students, 9 say they drink milk from the milk carton when no

6

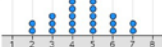
© 2018 Flamingo Math™ (Jean Adams)

Use your reasoning skills. Without calculating exact amounts:

- Which data set has the greatest sample standard deviation? Which has the least sample standard deviation? Explain how you know.

- How are the data sets the same? How are they different?

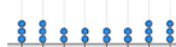
(I.)



(II.)



(III.)



10

© 2018 Flamingo Math™ (Jean Adams)

calculator, expand the binomial using the binomial theorem and Pascal's Triangle:

term in the expansion $(4x - 3y)^6$

8

© 2018 Flamingo Math™ (Jean Adams)

In 2017, the New England Patriots played 20 games during the regular season. Below are the points earned for each game.

24	23	30	38	27	36	36	30	19	24
23	21	41	33	35	23	20	27	37	26

- Use the data set to find the mean, median, and range.
- Make a box and whisker plot of the data.
- Find the inter-quartile range.

- A) The mean test score on your last test was 67. The standard deviation was 17.5. Determine the number of standard deviations that include all data values shown below:

37	54	58	62	65	68	72
74	76	81	84	91	96	

- B) A set of values has a mean of 102 and a standard deviation of 12. Find the z-score for the data value of 135.

2

© 2018 Flamingo Math™ (Jean Adams)

Monica recorded her time spent on the internet per day, for a 10-day period.

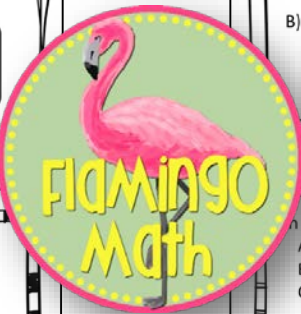
51.3	52.4	53.1	59.2	49.5
51.7	53.8	51.6	54.4	60.7

- Find the mean and standard deviation for the data.
- How many data values fall within one standard deviation?
- Two standard deviations?

3

© 2018 Flamingo Math™ (Jean Adams)

3



is a mean of 102 and a standard deviation of 12. What is the z-score of 2.5?

Algebra 2 is weighted based on five categories: 15% Homework, 5% Computer/Math Lab, 10% Quiz, and 20% Final Exam. Scores for each category are shown in the table below:

Computer Lab	Semester Exam	Final Exam
96	85	87

Use the mean of your scores to calculate your final grade.

- B) You found an error on your test average. It should have been 92 not 82. What is the new weighted average? Did your letter grade change? Explain your reasoning.

4

© 2018 Flamingo Math™ (Jean Adams)

A sample of 14 teens enrolled in a weight loss program shows the number of weeks it took to reach a target weight.

4.5	24	15	14.5	21.5	20.5	17
19.5	30.5	6.5	31	32.5		

- Find the mean, median, mode, and range.
- Determine which measure of central tendency best represents the data. Explain your reasoning.

For each survey sample:

- Find the sample proportion, the margin of error, and the interval likely to contain the true population proportion. (Note: round answers to the nearest percent)
- In a survey of 180 students, 129 prefer texting friends over talking to them.

35 students, 187 believe school resource officers have a positive influence in their school.

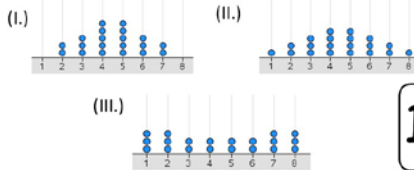
100 students, 9 say they drink milk from the milk carton when no

6

© 2018 Flamingo Math™ (Jean Adams)

Use your reasoning skills. Without calculating exact amounts:

- Which data set has the greatest sample standard deviation? Which has the least sample standard deviation? Explain how you know.
- How are the data sets the same? How are they different?



10

© 2018 Flamingo Math™ (Jean Adams)

Your sociology project requires a survey of your neighborhood related to using cell phones while dining out in a restaurant. A study that was shared in class, 58% of families use cell phones while dining out in a restaurant. Find each probability:

- $P(10 \text{ of } 20 \text{ families allow cell phones during dining})?$
- $P(15 \text{ of } 20 \text{ families permit cell phones at the restaurant})?$
- $P(\text{at least } 7 \text{ of } 20 \text{ families allow cell phones})?$

7

© 2018 Flamingo Math™ (Jean Adams)

B) $(2x - y)^4$

- C) Find the fourth term in the expansion $(4x - 3y)^6$

8

© 2018 Flamingo Math™ (Jean Adams)

FLAMINGO MATH

Let's Connect . . .



I have a passion and drive to create rigorous, engaging lessons of the highest quality for teachers and students. My products include guided notes, [Foldables](#),[®] SMART Board[®] lessons, games, activities, homework, assessments, and so much more. My resources are focused on three courses for your honors students.

[Algebra 2](#), [Pre-Calculus](#), and [Calculus](#).



Terms of Use

© 2012-2018 Jean Adams – Flamingo Math[™], LLC

All rights reserved. This product is for your **personal classroom use only** and is not transferable. This license is not intended for use by organizations or multiple users, including but not limited to schools, multiple teachers within a grade level, or school districts. If you would like to share this product with your colleagues or department, please purchase additional licenses from my store at a discounted price.

Copying any part of this product and posting the resource on the internet in any form, including classroom/personal websites, social media, Amazon Inspire, or network drives is prohibited, unless the site is password protected where only students can access the content. Violations are subject to penalties of the Digital Millennium Copyright Act (DMCA).

Thank you for protecting my work!

