FSA Algebra I

End-of-Course

Review Packet

Answer Key

Statistics

and the

Number System

FSA Algebra 1 EOC Review

Table of Contents

MAFS.912.N-RN.1.2 EOC Practice

Level 2	Level 3	Level 4	Level 5
converts radical notation to rational exponent notation and vice versa	identifies equivalent forms of expressions involving rational exponents and radical expressions where there is one operation	identifies equivalent forms of expressions involving rational exponents and radical expressions where there are two operations	[intentionally left blank]

1. Determine whether each equation is True or False. In case you find a "False " equation, explain why is False.

	TRUE	FALSE
$\sqrt{32} = 2^{\frac{5}{2}}$	■	☐
$16^{\frac{3}{8}} = 8^2$	☐	■
$4^{\frac{1}{2}} = \sqrt[4]{64}$	☐	■
$2^8 = \left(\sqrt[3]{16}\right)^6$	■	☐
$\left(\sqrt{64}\right)^{\frac{1}{3}} = 8^{\frac{1}{6}}$	☐	■

2. Which expression is equivalent to $\left(-\sqrt{\frac{2}{3}}\right)^{-\frac{2}{3}}$?

A. $\left(-\frac{2}{3}\right)^{\frac{1}{3}}$

B. $\left(-\frac{2}{3}\right)^{\frac{4}{3}}$

C. $\dfrac{1}{\left(\frac{2}{3}\right)^{\frac{1}{3}}}$

D. $\dfrac{1}{\left(-\frac{2}{3}\right)^{\frac{1}{3}}}$

3. If x represents a positive real number, which expression is equivalent to $\sqrt[3]{x^2} \cdot \sqrt{x^5}$?

   A. $\sqrt[3]{x^7}$

   B. $\sqrt[3]{x^{10}}$

   C. $\sqrt[6]{x^{10}}$

   D. $\sqrt[6]{x^{19}}$

4. Use the expression given below to answer the questions in part A and part B.

$$\frac{\left(\sqrt{5^{-3}}\right)^{\frac{k}{9}}}{\left(\sqrt{5^{-6}}\right)^{\frac{-k}{3}}}$$

   Part A.

   Using the properties of exponents, rewrite the expression in the form of $\left(\sqrt{5}\right)^{\frac{p}{q}}$.

$$\left(\sqrt{5}\right)^{\frac{7k}{3}}$$

   Part B.

   If the above expression is equivalent to the expression $5^{\frac{3}{2}} \times 5^{\frac{3}{2}}$, what is the value of k?

$$\frac{18}{7}$$

5. Which expression is equivalent to $(8x^3)^{\frac{2}{3}}$?

   A. $4x^2$
   B. $4x^3$
   C. $\sqrt{8x^9}$
   D. $\sqrt{(8x^3)^3}$

MAFS.912.N-RN.2.3 EOC Practice

Level 2	Level 3	Level 4	Level 5
[intentionally left blank]	completes an informal proof to show that a sum or product of two rational numbers is rational, that the sum of a rational number and an irrational number is irrational, and that the product of a nonzero rational number and an irrational number is irrational	generalizes rules for sum and product properties of rational and irrational numbers	[intentionally left blank]

1. Alicia added two rational numbers and arrived at the sum shown.

$$\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}, b \neq 0; d \neq 0$$

Alicia concluded that the sum of two rational numbers is also rational. Which of the mathematical statements did Alicia use to arrive at that conclusion?

   I.   The set of integers is closed under addition.
   II. The set of integers is closed under multiplication.
   III. A rational number can be written as the ratio of two integers.

   A. I only
   B. II only
   C. I and II only
   D. I, II, and III

2. Jakob is working on his math homework. He decides that the sum of the expression $\frac{1}{3} + \frac{6\sqrt{5}}{7}$ must be rational because it is a fraction. Is Jakob correct? Explain your reasoning.

   Jacob is not correct because the sum of a rational number and an irrational number is always irrational.

3. The rectangle shown below has a length of 6 feet.
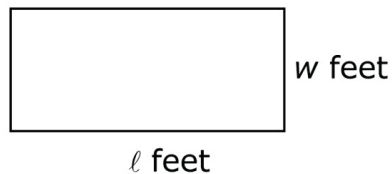

6 feet

Part A

The value of the area of the rectangle, in square feet, is an irrational number. Therefore, the number that represents the width of the rectangle must be_____

A. a whole number.
B. a rational number.
C. an irrational number.
D. a non-real complex number.

Part B

The length, ℓ, and width, w, of the rectangle shown below have values that are rational numbers.

w feet

ℓ feet

Construct an informal proof that shows that the value of the area, in square feet, of the rectangle must be a rational number.

Check student work. If l is a rational number and w is a rational number, when multiplied, the answer should be a rational number.

4. Let a represent a non-zero rational number and let b represent an irrational number.

    Part A

    Which expression could represent a rational number?

    A. $-b$
    B. $a + b$
    C. ab
    D. b^2

    Part B

    Consider a quadratic equation with integer coefficients and two distinct zeros. If one zero is irrational, which statement is true about the other zero?

    A. The other zero must be rational.
    B. The other zero must be irrational.
    C. The other zero can be either rational or irrational.
    D. The other zero must be non-real.

5. Which statement is NOT always true?

    A. The product of two irrational numbers is irrational.
    B. The product of two rational numbers is rational.
    C. The sum of two rational numbers is rational.
    D. The sum of a rational number and an irrational number is irrational.

MAFS.912.N-RN.1.1 EOC Practice

Level 2	Level 3	Level 4	Level 5
applies and explains properties of integer exponents	defines rational exponents by extending the properties of integer exponents	explains and uses the meaning of rational exponents in terms of properties of integer exponents, and uses notation for radicals in terms of rational exponents	proves the properties of rational exponents (which are an extension of the properties of integer exponents)

1. Which statement shows why $g^{\frac{1}{3}}$ represents the cubic root of g?

   A. $\left(g^{\frac{1}{3}}\right)^{\frac{1}{3}} = g$

   B. $\left(g^{\frac{1}{3}}\right)^{3} = g$

   C. $\left(g^{\frac{1}{3}}\right)^{\frac{1}{3}} = g^{\frac{2}{3}}$

   D. $\left(g^{\frac{1}{3}}\right)^{3} = g^{\frac{1}{3}}$

2. Four students have rewritten the expression with rational exponent $m^{\frac{5}{3}}$ in radical form as shown.

Dexter	$\sqrt[5]{m^3}$
Martha	$\sqrt[5]{3m}$
Alicia	$\sqrt[3]{m^5}$
Trevon	$\sqrt[3]{5m}$

   Who has rewritten this expression correctly?

   A. Dexter
   B. Martha
   C. Alicia
   D. Trevon

3. Which value of x would make the expression below equal to 8?

$$\left(\sqrt[5]{8^3}\right)^{x}$$

   A. $\dfrac{3}{5}$

   B. $\dfrac{5}{3}$

   C. 5
   D. 15

4. Four students were asked to solve the equation below:

$$5^{\frac{1}{3}} \times \_\_\_ = 5$$

Their answers were, as follows:

| Alberto	$\sqrt[3]{25}$
Rocio	$\sqrt[3]{125}$
Sharon	$5^{\frac{2}{3}}$
Alice	5^3

Which student or students answered the problem correctly?

☐ Alberto

☐ Rocio

☐ Sharon

☐ Alice

☐ Alberto and Rocio

☐ Alberto and Sharon

☐ Alberto and Alice

MAFS.912.S-ID.1.1 EOC Practice

Level 2	Level 3	Level 4	Level 5
identifies dot plots, histograms, and box plots for a given set of data in a real-world context	uses real-world data (represented in a table or in another display) to create dot plots, histograms, or box plots applying correct labels for components and/or axes, applying appropriate scale in a graph	completes a dot plot, histogram, or box plot for data that requires some interpretation or inference	determines and justifies which type of data plot would be most appropriate for a set of data; identifies advantages and disadvantages of different types of data plots

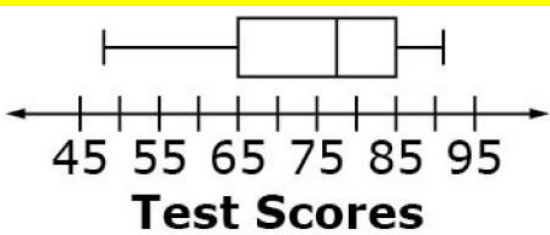1. Given the following box plot, what are the median, lower, and upper quartiles?
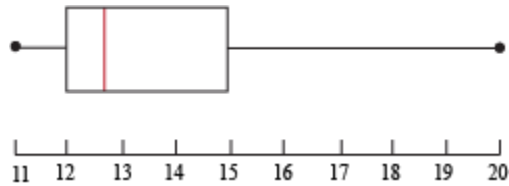
   A. 11.5, 14, and 16
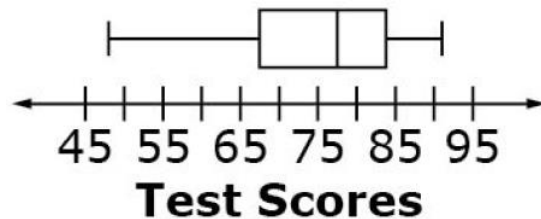   B. 12, 16, and 18
   C. 12, 12.7, and 15
   D. 11, 14, and 20

2. Select the box plot that represents the given test scores.

| 48 | 50 | 64 | 64 | 68 | 68 | 73 | 77 | 78 | 82 | 82 | 82 | 86 | 86 | 86 | 91 |

A.

Test Scores

B.

Test Scores

C.

Test Scores

D.

Test Scores
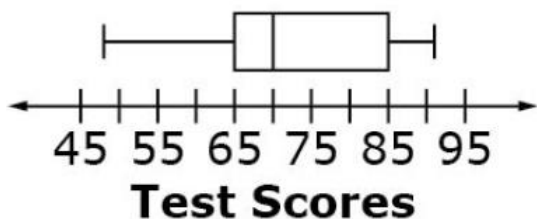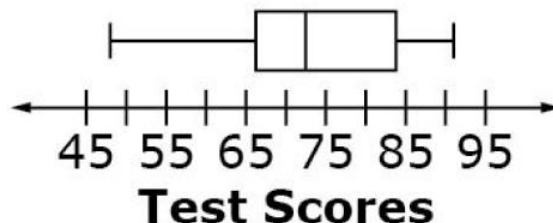
3. Which of the following is the dot plot for the data: 8, 7, 6, 10, 5, 6, 6, 6, 8, 8.

A.

B.

C.

D.
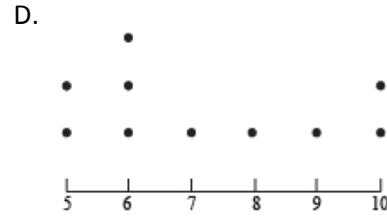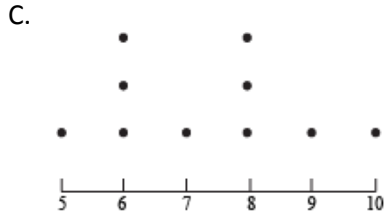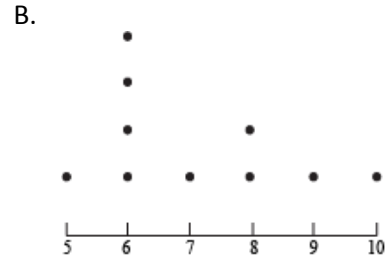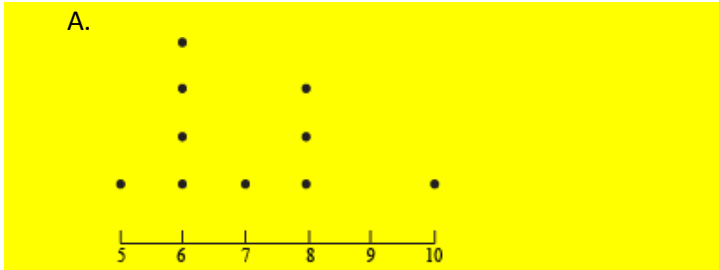
4. Twenty of your classmates were asked to keep track of the number of hours of TV they watched for a week. After the week was up, the following data was collected. Which histogram best represents the data?

| 10 | 7 | 8 | 11 | 7 | 12 | 7 | 14 | 18 | 13 | 7 | 8 | 6 | 11 | 12 | 10 | 9 | 11 | 11 | 12 |

A.

B.

C.

D.
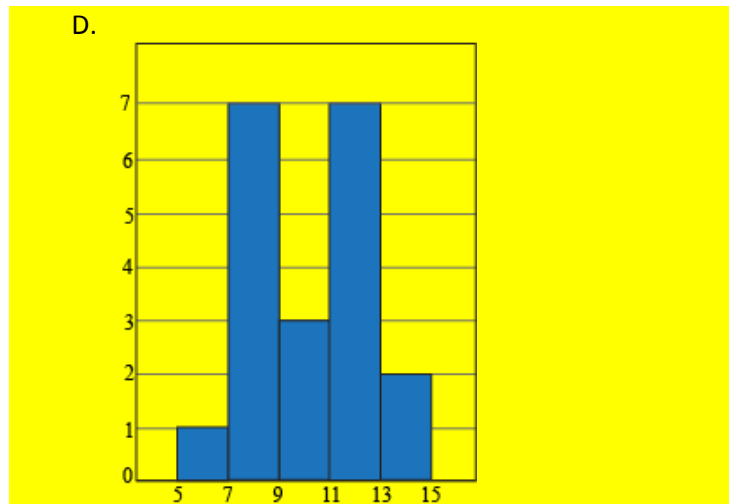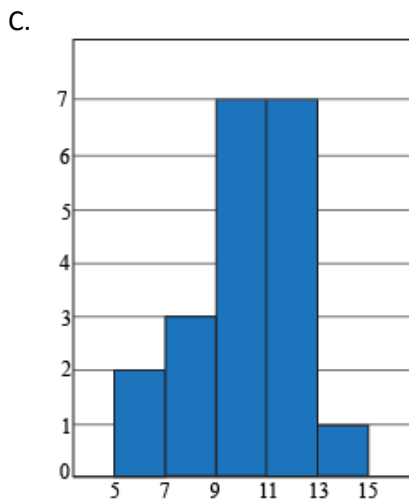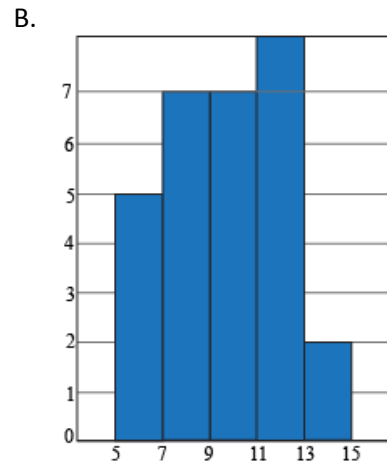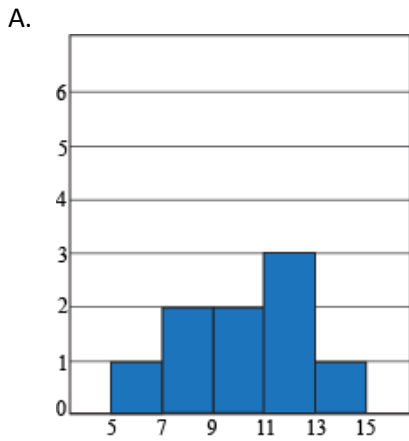
5. Mrs. Johnson created this histogram of her 3rd period students' test scores.
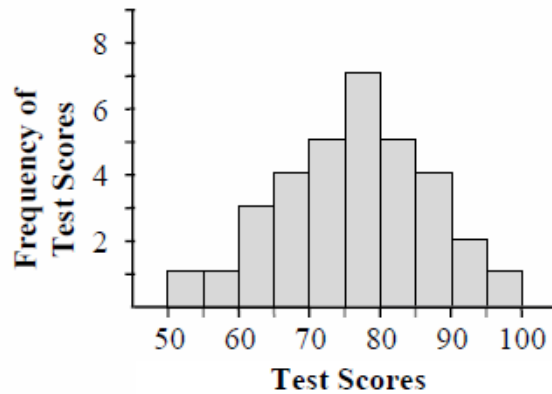
Which boxplot represents the same information as the histogram?

A.

B.

C.

D.
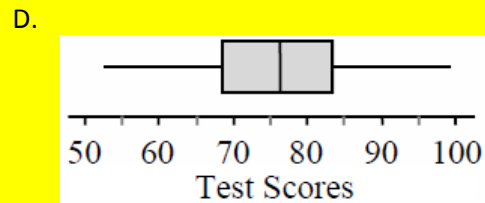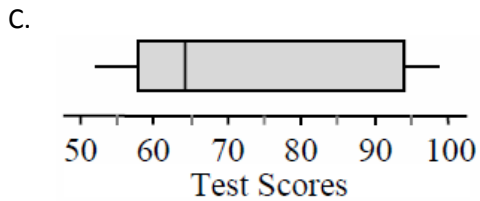
6. This graph shows annual salaries (in thousands of dollars) for all workers in a certain city.

The median salary is $80,500. Which value is the best approximation for the mean?

A. $40,250
B. $66,500
C. $80,500
D. $94,500

MAFS.912.S-ID.1.2 EOC Practice
Also assesses MAFS.912.S-ID.1.3

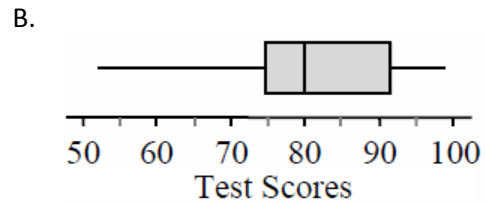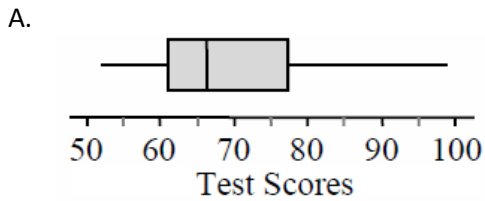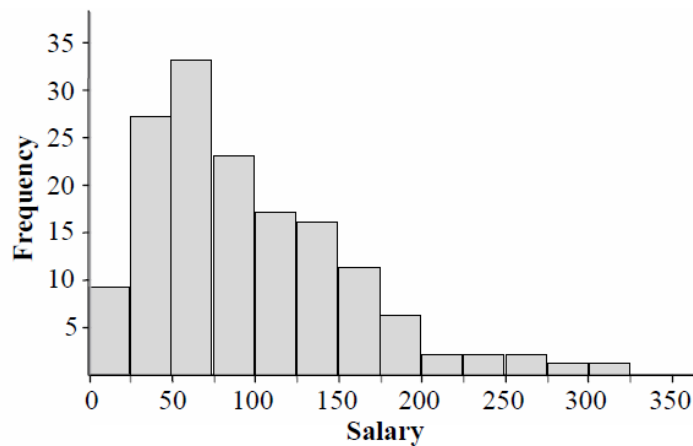| Level 2	Level 3	Level 4	Level 5
determines the mean/median and interquartile range of a single set of data from a visual representation (e.g., table)	interprets the difference in mean, median, and interquartile range in the context of a data set and compares the similarities or differences in mean, median, and interquartile range between two sets of data; predicts the effect of an outlier on the shape and center of a data set; uses the empirical rule with data values that are one or more standard deviation about the mean	explains similarities and differences using specific measures of center and spread, given two sets of data; predicts the effect of an outlier on the spread of a data set; uses the empirical rule with two data values that have integers as standard deviations, up to 3, above or below the mean	plots data based on situations with multiple data sets, and then compares and discusses using measures of center and spread, normal distribution; justifies which measure(s) are most appropriate for comparison; identifies advantages and disadvantages of using each measure of center and spread

1. Members of two cross-country teams ran an obstacle course. The table shows the times, in minutes and seconds, for the members of team R to complete the course.

Team R Obstacle Course Times

5:32	6:48	4:25	8:05	7:23
5:37	5:12	6:26	5:31	4:43
6:08	7:16	5:52	5:21	6:53
4:49	5:02	6:33	5:54	6:20

The obstacle course times, in minutes and seconds, for team S are summarized in the box plot below.
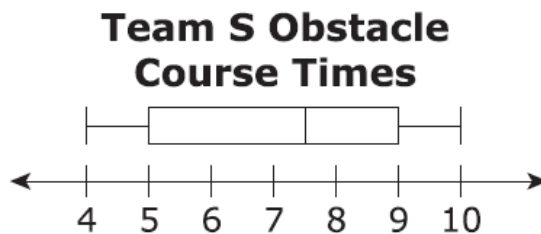
Team S Obstacle Course Times

Part A

Which Histogram represents the times from Team R on the obstacle course?

A.
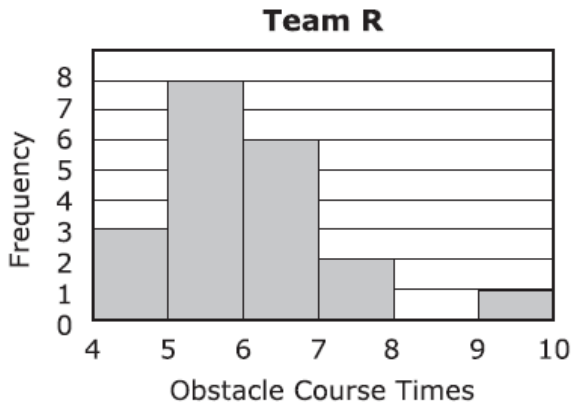
B.
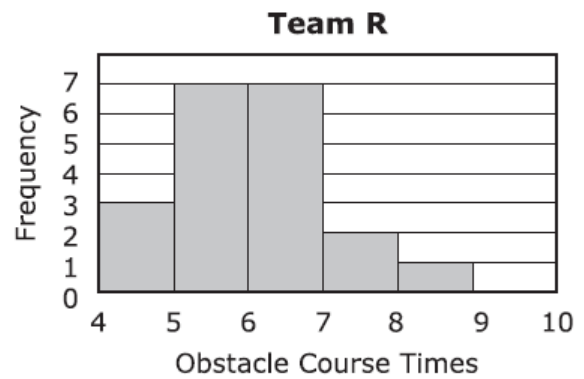
C.
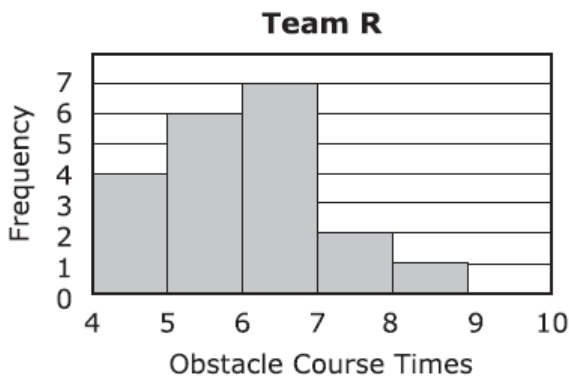
D.
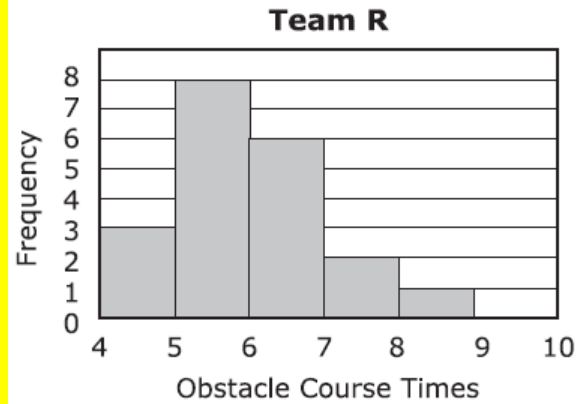
Part B

Which statements are true about the data for team R and team 5? Select **ALL** that apply.

☐ The median time of team R is less than the median time of team 5.

☐ The median time of team R is greater than the median time of team S.

☐ The interquartile range of team R is less than the interquartile range of team S.

☐ The interquartile range of team R is equal to the interquartile range of team 5.

☐ The data for team R is skewed to the left.

☐ The data for team S includes an outlier.

2. The data set shown below has an outlier. Determine the outlier and then answer the questions as to what happens to the median, mean, mode, range and standard deviation when the outlier is removed.

   Data: 29, 19, 35, 27, 21, 40, 23, 12, 24, 26, 20, 28, 30, 22, 19, 32, 22

If the outlier is excluded, what happens to:	Increase	Decrease	No effect
the median?	●	○	○
the mean?	○	●	○
the mode?	○	○	●
the range?	○	●	○
the standard deviation?	○	●	○

3. Each box-and-whisker plot to the right shows the prices of used cars (in thousands of dollars) advertised for sale at three different car dealers. Suppose Joe wants to go to the dealer whose prices seem least expensive. Which of the following is the best statistical reasoning?

   A. Joe should go with Cars are Us because they have the lowest maximum price.

   B. Joe should go with Better-than-New because they have the lowest low price of all three.

   C. Joe should not go with Yours Now because they have the maximum high price.

   D. Joe should go with Yours Now because 75% of their prices fall in the range of the lowest 50% of both the other companies' prices

   Cars are US

   Better-than-New

   Yours Now
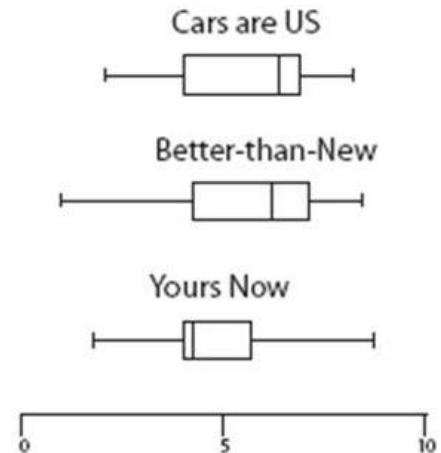
4. The distributions of two classes' final exam scores are shown below.
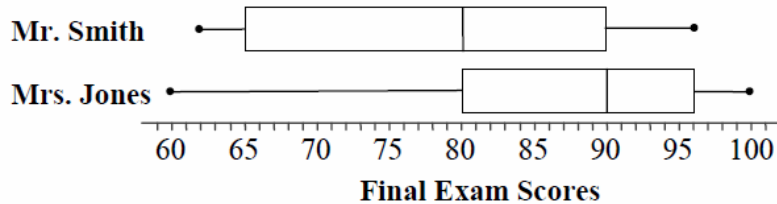
   Which statement about the box-and-whisker plots is true?

   A. 50% of the scores for Mr. Smith's class are between 65 and 80.
   B. 50% of the scores for Mrs. Jones' class are between 80 and 100.
   C. The median scores for the two classes are the same.
   D. The interquartile range of scores for Mr. Smith's class is greater than the interquartile range of the scores for Mrs. Jones' class.

For questions 5-6, use the following scenario.

A survey was made of high-school-aged students owning cell phones with text messaging. The survey asked how many text messages each student sends and receives per day. Some results are shown in the table below.

Group	Number Surveyed	Number of text messages sent/received per day among teens who text	
		Mean	Median
Girls, 14–17 years old	270	187	100
Boys, 14–17 years old	282	176	50
Total	552		

5. A histogram of the girls' responses (not shown) has a strong right skew. Which statement would support that observation?

    A. The number of girls' surveyed is greater than the mean number of texts sent by girls.
    B. The mean number of texts sent by girls is greater than the median number of texts sent by girls.
    C. The mean number of texts sent by girls is greater than the mean number of texts sent by boys.
    D. The median number of texts sent by girls is greater than the median number of texts sent by boys.

6. Which group's data has the larger interquartile range?

    A. Boys
    B. Girls
    C. Neither, they are equal.
    D. It cannot be computed from the information given.

7. Noah conducted a survey on sports participation. He created the following two dot plots to represent the number of students participating, by age, in soccer and basketball.
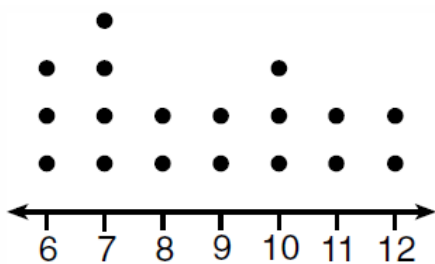
Soccer Players' Ages
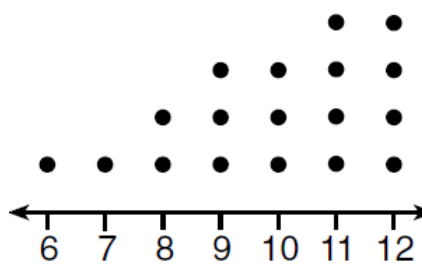
Basketball Players' Ages

Which statement about the given data sets is correct?

    A. The data for soccer players are skewed right.
    B. The data for soccer players have less spread than the data for basketball players.
    C. The data for basketball players have the same median as the data for soccer players.
    D. The data for basketball players have a greater mean than the data for soccer players.

8. Use the table to answer the question.

   Which conclusion about T-shirt prices at Cool Clothes and Ben's Shirts is **best** supported by the data?

   T-shirt Price Statistics for Two Stores

Store	Median	Mean	Interquartile Range
Cool Clothes	$13.99	$18.53	$8.24
Ben's Shirts	$14.99	$14.63	$4.60

   A. Some high-priced T-shirts at Cool Clothes make the mean higher than the median.
   B. The fact that the mean and median are very similar at Ben's Shirts shows that all of the shirts cost under $15.
   C. Comparing the mean prices shows that most shirts are cheaper at Ben's Shirts than at Cool Clothes.
   D. Comparing the interquartile range shows that T-shirts at Cool Clothes are about twice as expensive as T-shirts at Ben's Shirts.

9. A group of students measures the distance a toy car has traveled after different amounts of time. A table of the data is shown.

Time (second)	Distance (meters)
5	1.0
1	1.2
7	2.4
8	3.3
9	3.7
10	11.0
11	4.2
12	3.7
13	4.8
14	4.5
15	4.9

   The students want to perform an analysis of the data set and consider removing the outlier point.

   Select All of the quantities that will change if the outlier point is removed from the data set.

   ☐ Mean of the time

   ☐ Mean of the distance

   ☐ Median of the time

   ☐ Median of the distance

   ☐ Range of the time

   ☐ Range of the distance

MAFS.912.S-ID.2.5 EOC Practice

Level 2	Level 3	Level 4	Level 5
completes a two-way frequency table that requires completion of frequencies	creates or completes a two-way frequency table when up to two joint, marginal, or conditional relative frequencies are described within the context; finds the values for joint, marginal, or conditional relative frequency	chooses an interpretation of joint, marginal, and conditional relative frequencies; recognizes possible associations and trends in the data	interprets joint, marginal, and conditional relative frequencies; identifies and concludes associations and trends using a two-way frequency table

1. A random sample of 200 teenagers participated in a taste test. Each teenager sampled four choices of fruit drink (labeled "A", "B", "C", and "D"), and then were asked to pick a favorite. The table shows the results of this taste test.

	A	B	C	D	Total
Boys	45	25	30	20	120
Girls	25	10	30	15	80
Total	70	35	60	35	200

Based on the information given, which of the given statements are true? Select **ALL** that apply.

- ☐ 40% of the participants were girls
- ☐ 70% of the participants preferred "A"
- ☐ $\frac{20}{120}$ of the boys preferred "D"
- ☐ $\frac{10}{35}$ of the participants who preferred "B" were girls
- ☐ The proportion of boys who preferred "C" is equal to the proportion of girls who preferred "C"

2. A radio station did a survey to determine what kind of music to play by taking a sample of middle school, high school, and college students. They were asked which of three different types of music they prefer on the radio: hip-hop, alternative, or classic rock.

The results are summarized in the table below.

	Hip-Hop	Alternative	Classic Rock
Middle School	28	18	4
High School	22	22	6
College	16	20	14

What percentage of college students prefer classic rock?

A. 14%
B. 28%
C. 33%
D. 58%

FSA Algebra 1 EOC Review

3. You are testing a theory that says that students who speak a foreign language are also strong mathematics students. You survey the freshman class and the results are shown below, in an incomplete two-way frequency table. Answer the questions, regarding this table. (Percentage answers rounded to nearest percent.)

	Speak a Foreign Language	Do Not Speak a Foreign Language	Totals
Math Average ≥ 90	70	15	
Math Average NOT ≥ 90	10	50	
Totals			

a) How many students were surveyed?

A. 65   B. 85   C. 145   D. 80

b) What percentage of the students speak a foreign language and have a math average greater than or equal to 90?

A. 41%   B. 48%   C. 82%   D. 88%

c) What percentage of the students with a math average greater than or equal to 90 do not speak a foreign language?

A. 10%   B. 18%   C. 23%   D. 25%

For questions 4-6, use the following scenario.

A survey asked 100 students whether or not they like two sports: soccer and tennis. The results of the survey are shown in the table.

		Likes Soccer	
		Yes	No
Likes	Yes	12	18
Tennis	No	48	22

4. What is the relative frequency of students who like tennis, soccer, or both?

A. 0.12
B. 0.66
C. 0.78
D. 0.90

5. What is the relative frequency of students who like tennis?

A. 0.12
B. 0.18
C. 0.25
D. 0.30

6. What is the relative frequency of students who like both tennis and soccer?

   A. 0.12
   B. 0.30
   C. 0.60
   D. 0.78

7. A high school principal randomly surveyed students about a change in the dress code. The results are shown in the table.

		Class		
		Freshmen	Sophomores	Juniors
Favors	Yes	56	38	32
the change	No	24	37	58

Part A
What percentage of all respondents favors the policy change?

126/245 ≈ 51%

Part B
Which class has the highest favorable percentage? Which class has the lowest favorable percentage?

Freshmen: 56/80 = 70% *Highest favorability*

Sophomores: 38/75 ≈ 51%

Juniors: 32/90 ≈ 36% *Lowest favorability*

Part C
Is there a relationship between class and favoring the dress code change? Explain.

There is a relationship. The older the student, the less chance he favors the change in dress code.

8. Use the table below to answer the question

New Park Survey

	For the Park	Against the Park	Undecided
East Side	346	125	201
West Lake	349	250	252

A community has to decide whether to raise taxes to create a new park. Voters in two neighborhoods are surveyed about the issue. The results are shown in the table.

Which conclusion is best supported by the data?

A. More than 50% of the people surveyed support the park.
B. About the same percentage of East Side and West Lake voters support the park.
C. About the same percentage of East Side and West Lake voters are undecided about the park.
D. The percentage of West Lake residents who are against the park is about twice the percentage of East Side residents who are against the park.

MAFS.912.S-ID.2.6 EOC Practice

| Level 2	Level 3	Level 4	Level 5
creates a scatter plot of bivariate data	identifies a linear, quadratic, or exponential regression model that fits the data; uses a regression equation to solve problems within the context; interprets correlation coefficient; calculates residuals	creates a residual plot and determines whether the function is an appropriate fit for the data; explains why a situation with correlation does not imply causation	distinguishes variables that are correlated because one is a cause of another; explains why the correlation coefficient may not show a strong correlation; identifies flaws in data where causation is claimed

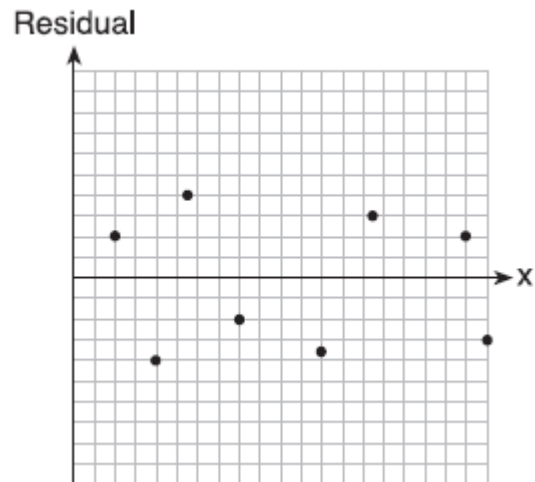1. Which statistic would indicate that a linear function would *not* be a good fit to model a data set?

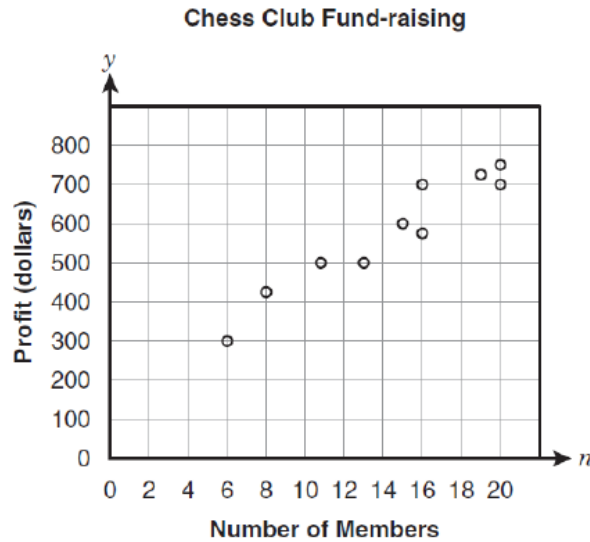   A. $r = -0.93$ B. $r = 1$

   C.

   D.
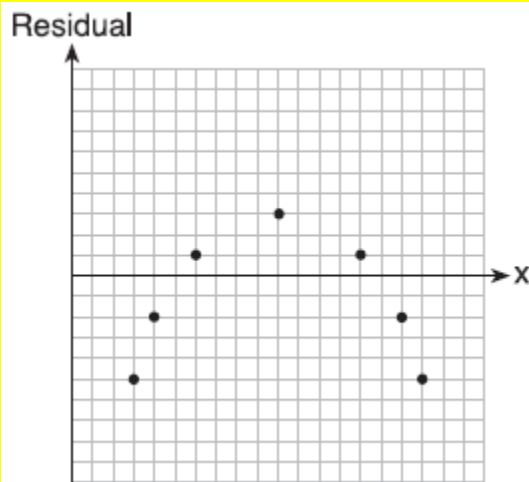
2. Vance graphed the relation between fund-raising profits for the chess club and the number of members.

Chess Club Fund-raising

Which equation represents a line that fits the data?

A. $y = 29n + 180$
B. $y = 60n + 180$
C. $y = \frac{2}{3}n + 180$
D. $y = \frac{200}{3}n + 180$

Professor Plum conducted an experiment on the number of bacteria growing in his lab. The data below shows his results.

Day	0	1	2	3	4	5
Approximate # of bacteria	50	100	200	400	800	1600

Write a function to model this situation.
$y = 50(2)x$

3. Matt drank a super tall glass of soda pop which had 200mg of caffeine. His body can process about 15% of the caffeine every hour. Which of the following best models the number of milligrams of caffeine, C, remaining in his body h hours after he drank that soda pop?

A. $C(w) = 200 \cdot (.85)^h$
B. $C(w) = 200 \cdot (.15)^h$
C. $C(w) = 200 - 85h$
D. $C(w) = 200 - 15h$

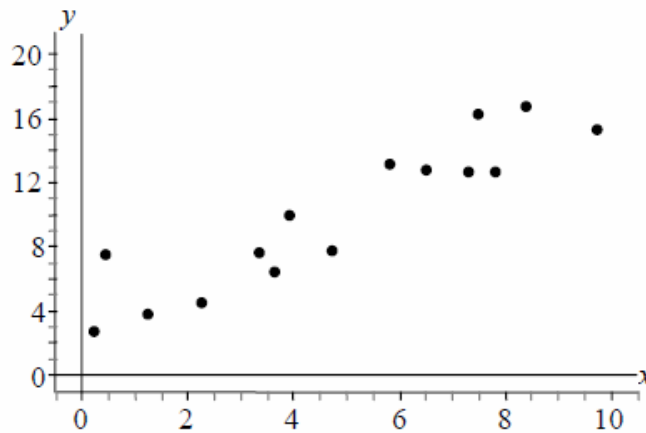4. The scatterplot below represents the forearm lengths and foot lengths of 10 people.
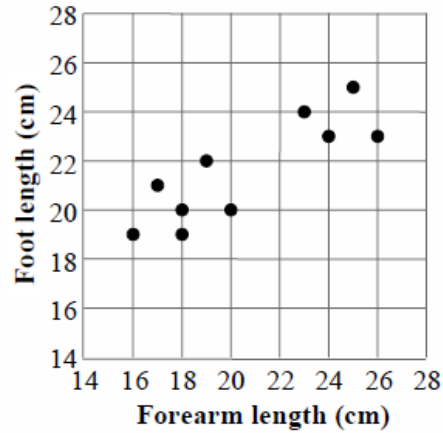
Based on a linear model of the data, which is the best prediction for the length of a person's foot if his/her forearm length is 21 centimeters?

A. 19 cm
B. 20 cm
C. 22 cm
D. 24 cm

5. The line of best fit for the scatterplot below is $y = 1.4x + 2.9$

What is the residual for the point (4, 10)?

A. -1.5
B. 1.5
C. 8.5
D. 10

MAFS.912.S-ID.3.8 EOC Practice

Level 2	Level 3	Level 4	Level 5
creates a scatter plot of bivariate data	identifies a linear, quadratic, or exponential regression model that fits the data; uses a regression equation to solve problems within the context; interprets correlation coefficient; calculates residuals	creates a residual plot and determines whether the function is an appropriate fit for the data; explains why a situation with correlation does not imply causation	distinguishes variables that are correlated because one is a cause of another; explains why the correlation coefficient may not show a strong correlation; identifies flaws in data where causation is claimed

1. What does the correlation coefficient tell us?

    A. Measure of the exponential association between two variables
    B. Measure of the causation of one variable on the other
    C. Measure of the linear association between two variables
    D. Measure of the distance between a datum and the value predicted by a model

2. The correlation coefficient between two variables is 0.9. How would you describe this value?

    A. Strong and positive
    B. Strong and negative
    C. Weak and positive
   D. Weak and negative

3. We assume that SAT score is linearly associated with GPA and determine the correlation coefficient to be 0.8. What does this value suggest?

    A. SAT score decreases as GPA increases
    B. There is no relation between SAT score and GPA
    C. GPA increases as SAT decreases
    D. SAT score increases as GPA increases

4. Evaluate the truth of each statement about the correlation coefficient r.

Statement	TRUE	FALSE
A value of r near zero indicates there is a weak linear relationship between x and y	T	
A value of $r = -0.5$ indicates a weaker linear relationship between x and y than a value of $r = 0.5$.		F
A value of $r = 1$ indicates that there is a cause-and-effect relationship between x and y.		F

5. The following figure displays a graph showing GPA and SAT score. Based on the scatter plot, which of the following is the best assumption about the correlation between the variables?
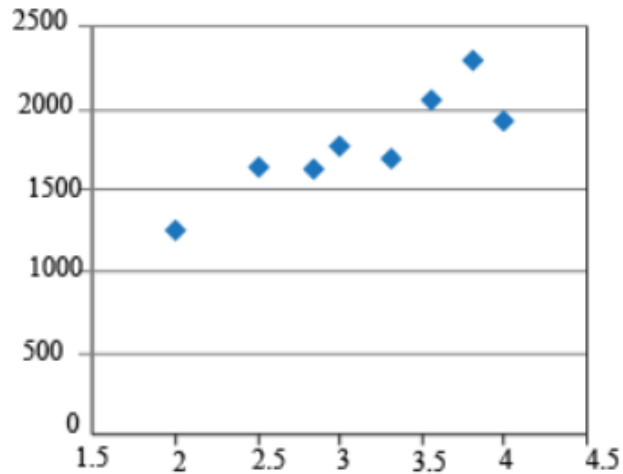
A. Positive linear correlation
B. No correlation
C. Negative linear correlation
D. Exponential correlation

6. Deany collects data for a market research company on the number of dollars men and women spend on video games per year as a function of their age. She then models the data using linear functions.

   • The correlation coefficient for the function for men is 0.30.
   • The correlation coefficient for the function for women is 0.15.

   Which statement correctly describes the meaning of the correlation coefficients?

   A. Men spend approximately twice as much as women on video games.
   B. The function for men represents the amount they spend on video games better than the function for women.
   C. Men spend the most on video games at age 30, and women spend the most on video games at age 15.
   D. Men increase the amount they spend on video games by 30% each year, and women increase the amount they spend by 15%.

FSA Algebra 1 EOC Review

MAFS.912.S-ID.3.9 EOC Practice

Level 2	Level 3	Level 4	Level 5
creates a scatter plot of bivariate data	identifies a linear, quadratic, or exponential regression model that fits the data; uses a regression equation to solve problems within the context; interprets correlation coefficient; calculates residuals	creates a residual plot and determines whether the function is an appropriate fit for the data; explains why a situation with correlation does not imply causation	distinguishes variables that are correlated because one is a cause of another; explains why the correlation coefficient may not show a strong correlation; identifies flaws in data where causation is claimed

1. Fill in the blank: Correlation does not _____ causation.

   A. cause
   B. imply
   C. beat
   D. run

2. What is the definition of correlation?

   A. Measure of the strength of a linear relationship between two variables
   B. Proof that one variable causes another
   C. A measure of the strength of causation of one variable on another
   D. An implication of causation

3. Which of the following values for r suggests that one variable causes another?

   A. -0.7
   B. 0
   C. 0.9
   D. None of the above

4. What does an r value of -0.89 suggest about two variables?

   A. That an increase in the independent variable causes the dependent variable to decrease
   B. That an increase in the independent variable causes the dependent variable to increase
   C. As the independent variable increases, the dependent variable increases
   D. As the independent variable increases, the dependent variable decreases

5. Eduardo notices he gets no mosquito bites when he wears a certain kind of sunscreen. He forms two possible conclusions.
   I. The sunscreen causes mosquitoes to stay away from him.
   II. There is a correlation between wearing sunscreen and getting no mosquito bites, but one does not cause the other.

   Which observation would provide the best evidence to support conclusion II?

   A. Eduardo's friend gets mosquito bites when he goes out without sunscreen.
   B. Eduardo's friend wears the same sunscreen and also gets no mosquito bites.
   C. Eduardo gets no mosquito bites when he goes out at the same time of day without sunscreen.
   D. Eduardo tries a new kind of sunscreen and goes out at a different time of day and gets mosquito bites.