

Getting ready for....

FSA Algebra 1 EOC

Statistics, Probability, and the Number System



2014-2015

Student Packet

FS Algebra 1 EOC Review

MAFS.912.N-RN.1.2

Rational Exponents – 1

Rewrite each of the following as a single power of 7:

1. $\sqrt{7}$

2. $\sqrt[3]{7}$

3. $\sqrt{7^3}$

4. $\sqrt[3]{49}$

Rational Exponents – 2

Rewrite each of the following in radical form:

1. $5^{\frac{1}{2}}$

2. $5^{\frac{1}{3}}$

3. $5^{\frac{3}{2}}$

4. $5^{-\frac{1}{4}}$

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Rational Exponents – 3

Rewrite $\sqrt{8} \cdot 2^{\frac{2}{5}}$ as a single power of 2. Carefully show each step of your work.

Rational Exponents – 4

Rewrite each of the following as a single power of 7.

1. $(49^{\frac{1}{3}})(7^{-\frac{1}{4}})$

2. $\frac{\sqrt[3]{7}}{\sqrt{7}}$

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MAFS.912.N-RN.1.2 EOC Practice

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

	TRUE	FALSE
$\sqrt{32} = 2^{\frac{5}{2}}$	<input type="checkbox"/>	<input type="checkbox"/>
$16^{\frac{3}{8}} = 8^2$	<input type="checkbox"/>	<input type="checkbox"/>
$4^{\frac{1}{2}} = \sqrt[4]{64}$	<input type="checkbox"/>	<input type="checkbox"/>
$2^8 = (\sqrt[3]{16})^6$	<input type="checkbox"/>	<input type="checkbox"/>
$(\sqrt{64})^{\frac{1}{3}} = 8^{\frac{1}{6}}$	<input type="checkbox"/>	<input type="checkbox"/>

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. $\frac{1}{\left(-\frac{2}{3}\right)^{\frac{1}{3}}}$
- D. $\frac{1}{\left(-\frac{2}{3}\right)^{\frac{4}{3}}}$

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. $\sqrt[3]{x^{19}}$

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

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

Part A.

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

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 ?

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Product of Non-Zero Rational and Irrational Numbers

1. Describe the difference between a rational and an irrational number. Give a general explanation and an example of each.

2. Explain why the product of a non-zero rational number and an irrational number is irrational.

Sum of Rational and Irrational Numbers

Describe the difference between a rational and an irrational number. Give a general explanation and an example of each.

1. Explain why the sum of a rational number and an irrational number is irrational.

Product of Rational Numbers

Define a rational number as precisely as you can. Give a general explanation and examples.

1. Explain why the product of two rational numbers is rational.

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Sum of Rational Numbers

Define a rational number as precisely as you can. Give a general explanation and examples.

1. Explain why the sum of two rational numbers is rational.

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MAFS.912.N-RN.2.3 EOC Practice

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



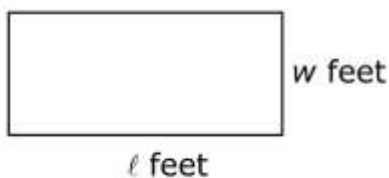
Part A

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.



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

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3. 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.
4. 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.

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MAFS.912.N-RN.1.1

Roots and Exponents

1. Rewrite $\sqrt{5}$ as a power of 5: $\sqrt{5} = 5^x$ $x =$ _____

2. Explain why $\sqrt{5}$ is equal to the power of five that you wrote.

Rational Exponents and Roots

1. Show that $5^{\frac{1}{3}}$ is equal to $\sqrt[3]{5}$ by cubing each expression. Show your work in detail.

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MAFS.912.N-RN.1.1 EOC Practice

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

- A. $(g^{\frac{1}{3}})^{\frac{1}{3}} = g$
- B. $(g^{\frac{1}{3}})^3 = g$
- C. $(g^{\frac{1}{3}})^{\frac{1}{3}} = g^{\frac{2}{3}}$
- D. $(g^{\frac{1}{3}})^3 = g^{\frac{1}{3}}$

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	$\sqrt[3]{5m}$

- 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. $\frac{3}{5}$
- B. $\frac{5}{3}$
- C. 5
- D. 15

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

$$5^{\frac{1}{3}} \times \underline{\hspace{1cm}} = 5$$

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?

- Only Alberto
- Only Rocio
- Only Sharon
- Only Alice
- Alberto and Rocio
- Alberto and Sharon
- Alberto and Alice

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A Tomato Garden

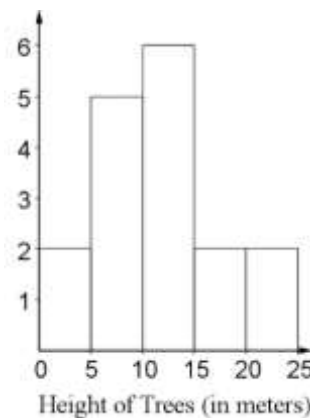
In the spring, Sarah planted a tomato garden consisting of 12 plants. The number of tomatoes harvested from the various plants is as follows: 6, 8, 9, 5, 6, 8, 12, 0, 6, 8, 4, and 8.

Represent the data using a dot plot.

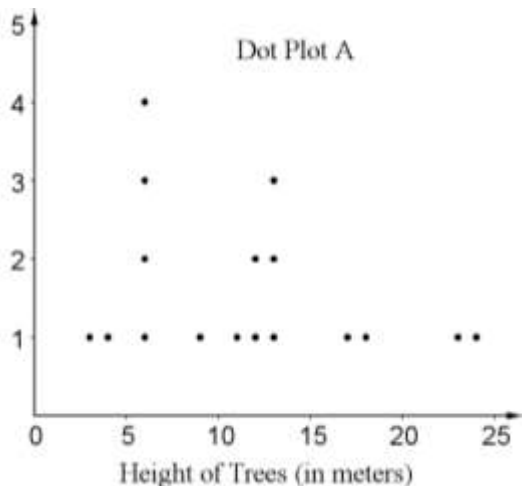


Flowering Trees

City Park contains many flowering trees. The histogram to the right describes the heights of the trees.

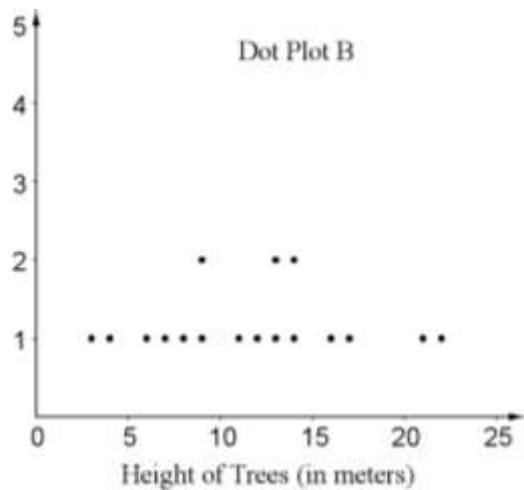


1. Could Dot Plot A represent the data in the histogram? Explain how you determined the relationship between the histogram and the dot plot.



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2. Could Dot Plot B represent the data in the histogram? Explain how you determined the relationship between the histogram and the dot plot.



Winning Seasons

Every year the Metro Stars baseball team plays 100 games. During the past decade, their number of wins each year was 41, 56, 52, 71, 66, 62, 42, 37, 52, and 58.

Construct a histogram that represents the data.

Trees in the Park

Maria investigated the size of trees in a local park. The following are the circumferences of the 12 pine trees (in centimeters):

161, 141, 194, 168, 123, 15, 174, 154, 117, 166, 162, 183.

Construct a box plot that represents this data.

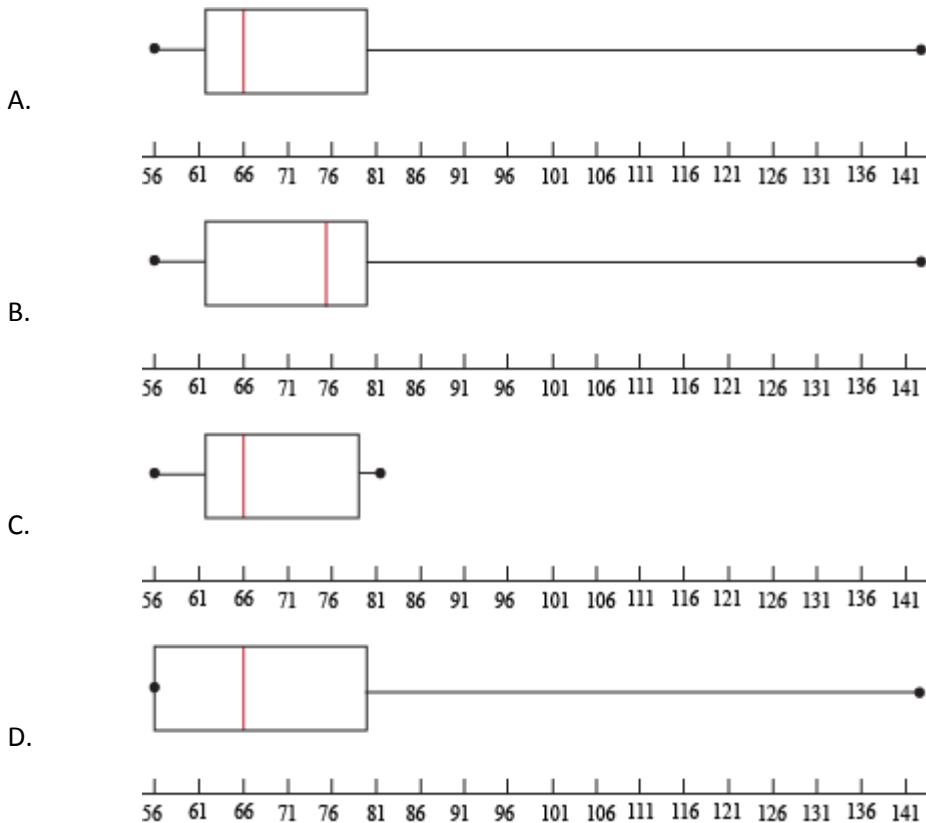
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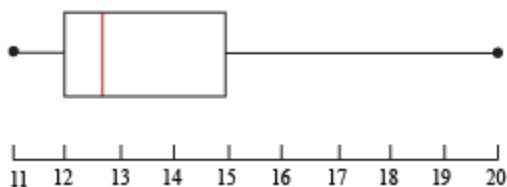
1. The following lists the salaries in millions, for the top ten highest paid CEOs in the United States.

145	90	76	69	68	66	66	64	57	56
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Which of the following is the box plot for this data set?



2. Given the following box plot, what are the median, lower, and upper quartiles?

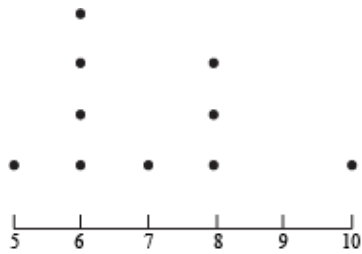


- A. 11.5, 14, and 16
 B. 12, 16, and 18
 C. 12, 12.7, and 15
 D. 11, 14, and 20

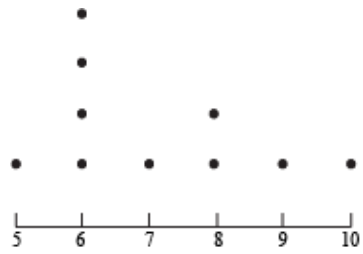
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3. Which of the following is the dot plot for the data: 8, 7, 6, 10, 5, 6, 6, 6, 8, 8.

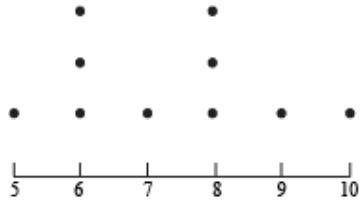
A.



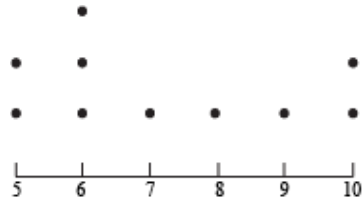
B.



C.



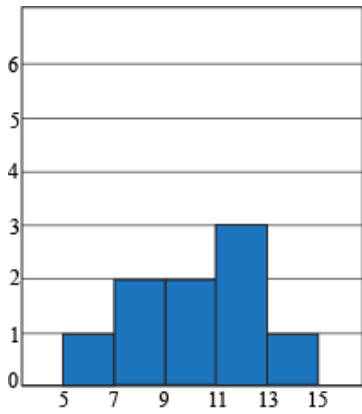
D.



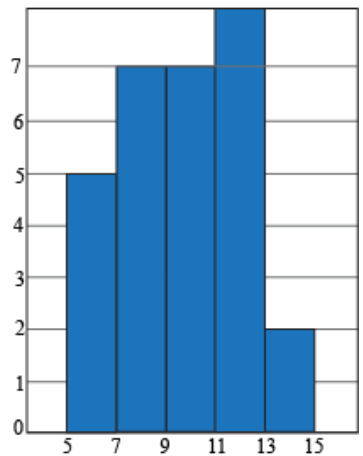
4. Twenty of your classmates were asked to keep track of the number of hours of TV they watched for a week. After the week was up, the following data was collected.

10	7	8	11	7	12	7	14	18	13	7	8	6	11	12	10	9	11	11	12
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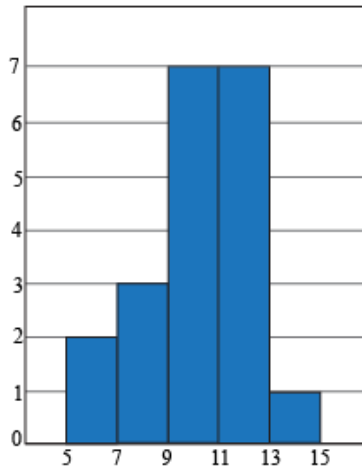
A.



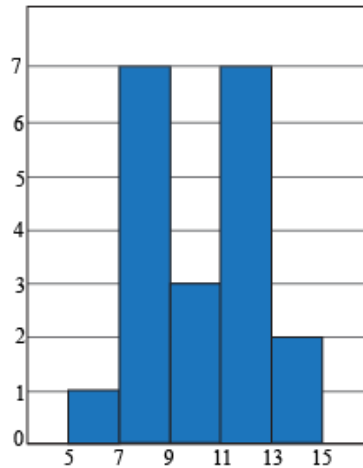
B.



C.



D.



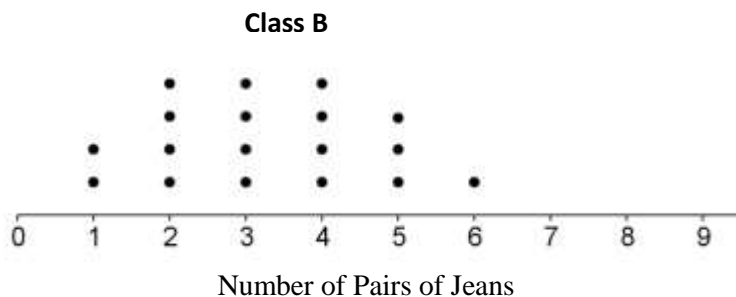
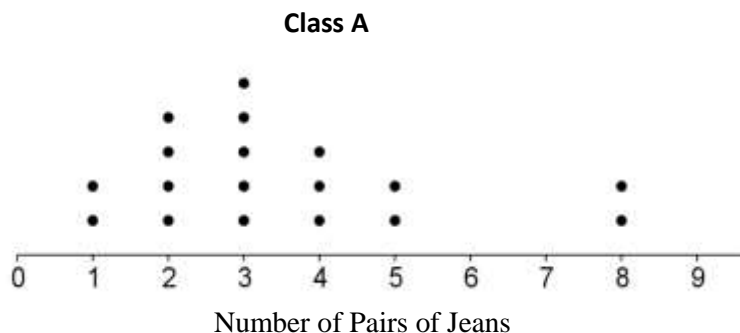
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How Many Jeans?

The data in the dot plots represent the number of pairs of jeans owned by 18 randomly chosen students from two different high school classes.

- Choose a measure of center to compare the two distributions. Justify your choice.



Texting during Lunch

Two groups, each consisting of 38 high school students, participated in a survey about the number of times they sent a text message during lunch. The frequency tables below display the results.

Texting During Lunch - Group A	
Number of Texts	Number of Students
3	
5	/
7	/
8	/
10	/ /

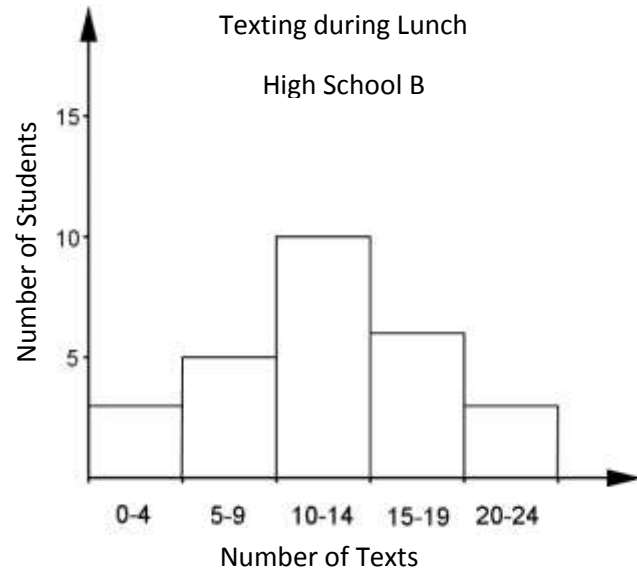
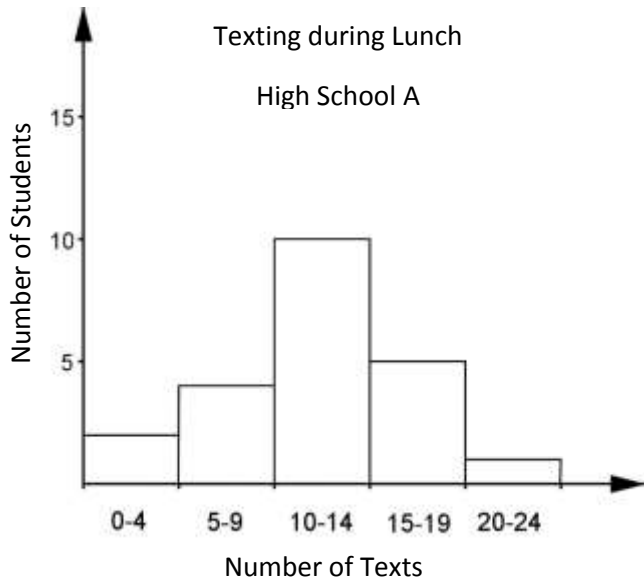
Texting During Lunch - Group B	
Number of Texts	Number of Students
2	
3	
7	/
9	/
12	/ / /

- Choose the best measure of center for comparing the distributions. Justify your choice.

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Texting during Lunch Histograms

The histograms display data on the number of texts sent during lunch by samples of students chosen from two different high schools.



1. Choose a measure of center and a measure of spread that would be appropriate to compare the two distributions. Justify your choices.

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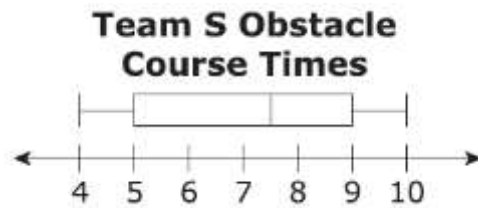
MAFS.912.S-ID.1.2 EOC Practice

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

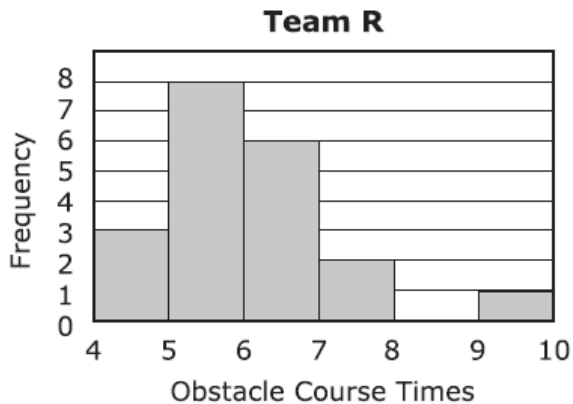
The obstacle course times, in minutes and seconds, for team S are summarized in the box plot below.



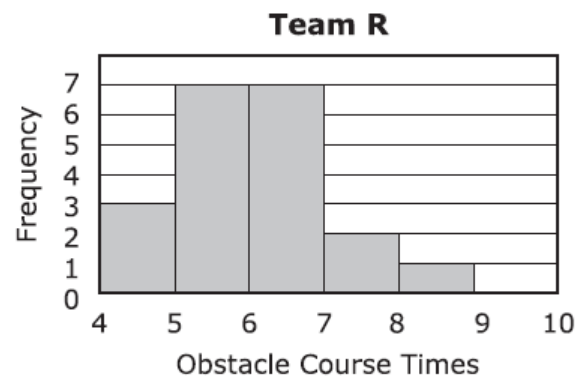
Part A

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

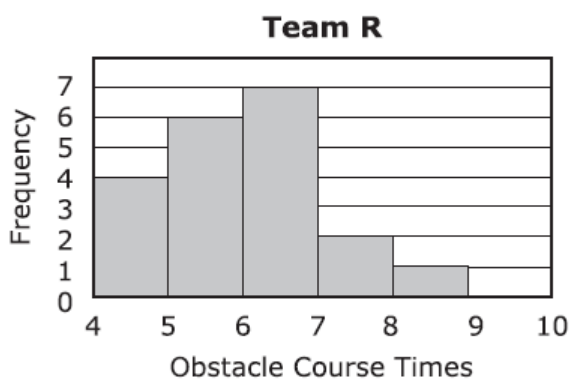
A.



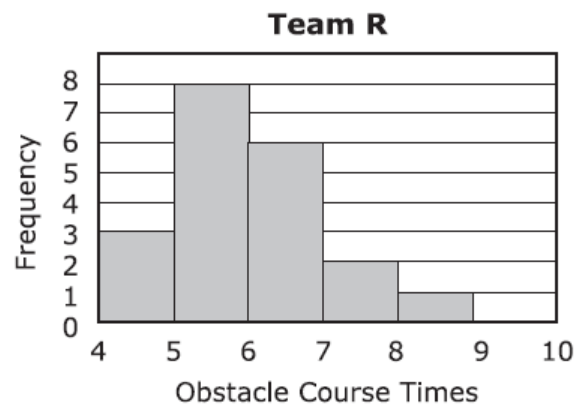
B.



C.



D.



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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.

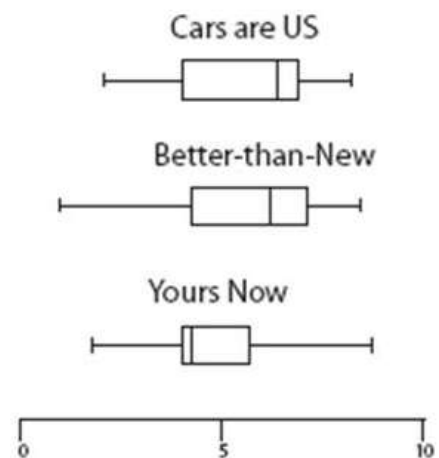
2. The data set shown below has an outlier. Determine the outlier and then answer the questions as to what happens to the median, mean, mode, range and standard deviation when the outlier is removed.

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?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
the mean?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
the mode?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
the range?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
the standard deviation?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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



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Breakfast Drink Preference

<http://www.cpalms.org/Public/PreviewResource/Preview/70183>

A group of students were asked to select their preferred breakfast drink from among coffee, tea, and orange juice. The results of the survey are shown in the table along with information about whether the students are in high school (HS) or in college (C).

1. Create a two-way frequency table to organize the data.

Participant	Age Group	Drink
1	HS	Orange Juice
2	HS	Tea
3	C	Coffee
4	HS	Tea
5	C	Coffee
6	C	Coffee
7	C	Orange Juice
8	HS	Tea
9	C	Tea
10	HS	Orange Juice
11	C	Tea
12	C	Coffee
13	HS	Coffee
14	HS	Tea
15	HS	Orange Juice
16	HS	Tea
17	HS	Orange Juice
18	C	Tea
19	HS	Coffee
20	C	Coffee
21	C	Orange Juice
22	HS	Tea
23	C	Tea
24	C	Orange Juice
25	HS	Coffee
26	HS	Orange Juice
27	C	Coffee
28	HS	Orange Juice
29	C	Coffee
30	C	Coffee

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Who Is a Vegetarian?

The tables display the results of a survey of eating preferences from two samples of high school students. Do the data suggest a relationship between gender and vegetarianism? Justify your reasoning.

1.

Eating Preferences – Sample 1

	Vegetarian	Not a Vegetarian	Total
Male	14	36	50
Female	15	35	50
Total	29	71	100

2.

Eating Preferences – Sample 2

	Vegetarian	Not a Vegetarian	Total
Male	38	12	50
Female	17	33	50
Total	55	45	100

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Conditional Relative Frequency

The table displays the results of a survey of eating preferences of a sample of high school students. Use the data in the two-way frequency table below to answer the following questions.

Eating Preferences

	Vegetarian	Not a Vegetarian	Total
Male	12	38	50
Female	17	33	50
Total	29	71	100

1. In the context of the data, interpret the conditional relative frequency of $\frac{17}{50}$.
2. In the context of the data, interpret the conditional relative frequency of $\frac{17}{29}$.

Marginal and Joint Frequency

The table displays the results of a survey of eating preferences of a sample of high school students. Use the data in the two-way frequency table below to answer the following questions.

Eating Preferences

	Vegetarian	Not a Vegetarian	Total
Male	12	38	50
Female	17	33	50
Total	29	71	100

1. In the context of the data, interpret the marginal relative frequency of $\frac{29}{100}$.
2. In the context of the data, interpret the joint relative frequency of $\frac{17}{100}$.

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MAFS.912.S-ID.2.5 EOC Practice

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. 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%

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MAFS.912.S-ID.2.6

Swimming Predictions

The table shows the world record times for the men's 50 meter breaststroke since 1995.

Year	1995	1997	1998	1998	1998	2002	2002	2006	2008	2008	2008	2009
Record Time (in seconds)	27	27	27	27	26.7	26.3	26.2	26.2	26.1	25.9	25.4	25.3

The equation $y = -0.109x + 244.607$ models the relationship between x , the year of the record, and y , the world record time.

- Based on this model, what is the predicted world record time for the Men's 50 meter breaststroke in the year 2020? Show your calculations and interpret your prediction in the context of the data.
- When will the world record time for the Men's 50 meter breaststroke reach 20 seconds? Show your calculations and interpret your prediction in the context of the data.

Fit a Function

A biology student has been learning about bacteria growth. The data in the table below represent the number of bacteria found on a petri dish over a 10 hour period. Create a scatter plot from the data in the table.

Time (in hours)	Number of Bacteria
1	25
2	65
3	200
4	550
5	1,700
6	4,900
7	15,500
8	46,000
9	138,000
10	401,000

Sketch your scatter plot here.

- What kind of model better describes how the variables are related: linear or exponential? Justify your choice.

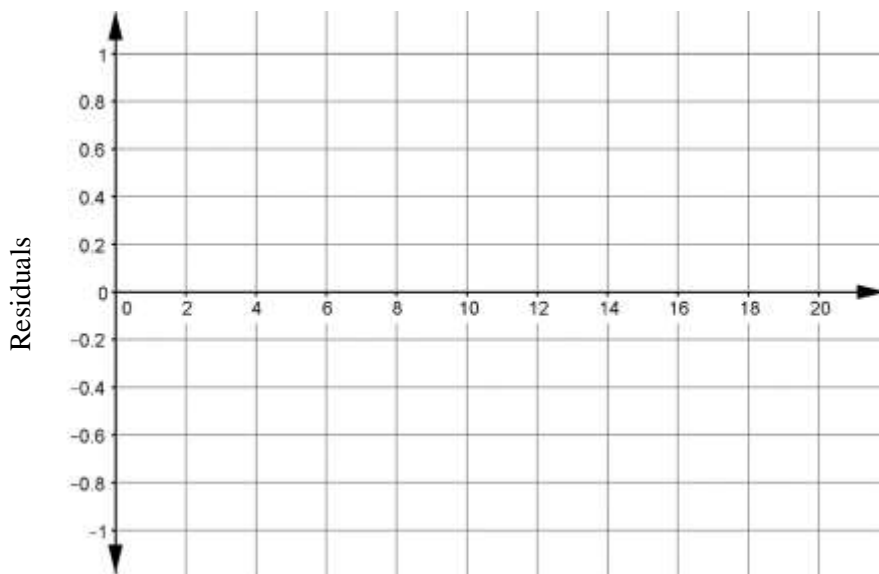
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Residuals

A researcher collected data on two variables, A and B, from five subjects as shown in the table. The researcher calculated the equation of a line of fit as $b = 18.0 - 1.34a$.

Subject	A	B	C	D	E
a = value of variable A	2	4	5	8	10
b = value of variable B	16	12	11	7	5
Predicted Values					
Residuals					

1. Use the linear model to calculate a predicted value and the residual for each subject. Record each value in the table above.
2. Create a residual plot by graphing the residuals below. The horizontal axis is the a -axis.

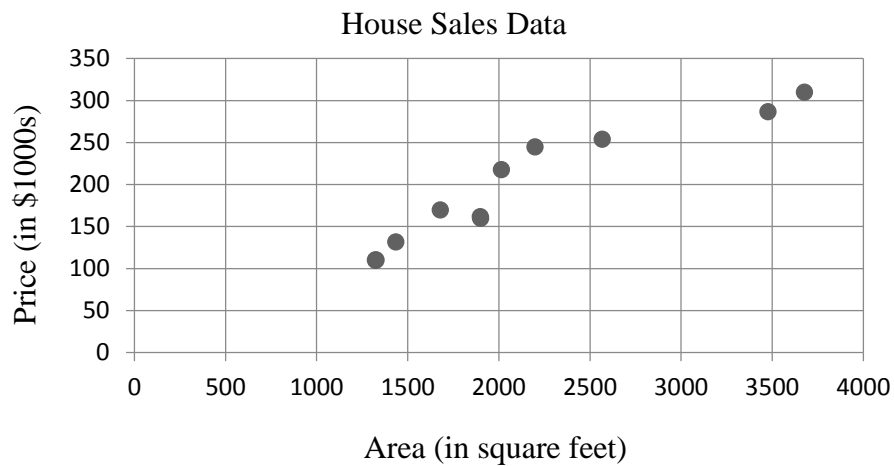


3. What does your residual plot indicate about the fit of the equation?

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House Prices

The prices and total floor areas of a sample of houses for sale are shown in the scatterplot.



1. Draw a line that appears to be a good fit for the data on the graph.
2. Write the equation of your line of fit.
3. Use your equation to predict the price of a 3000 square foot house. Show all work.

FS Algebra 1 EOC Review

MAFS.912.S-ID.2.6 EOC Practice

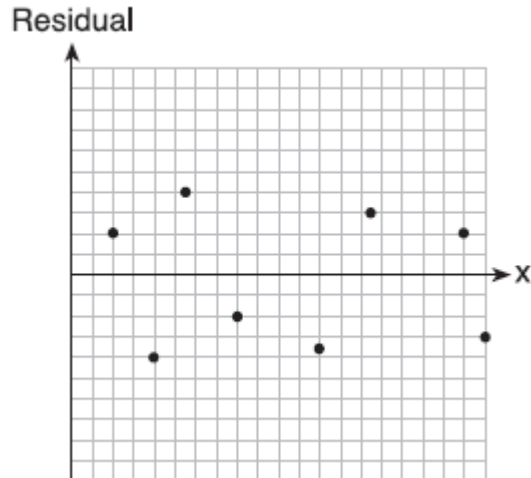
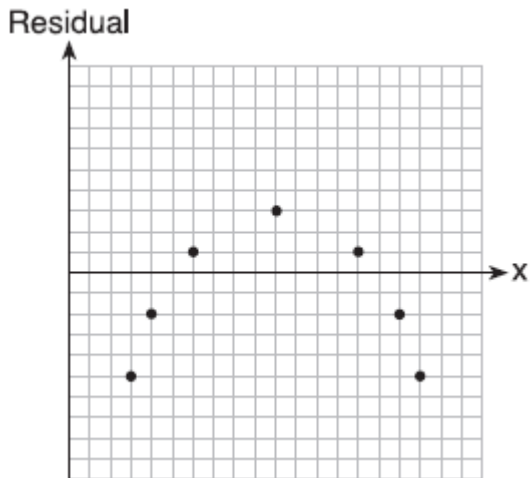
1. Which statistic would indicate that a linear function would *not* be a good fit to model a data set?

A. $r = -0.93$

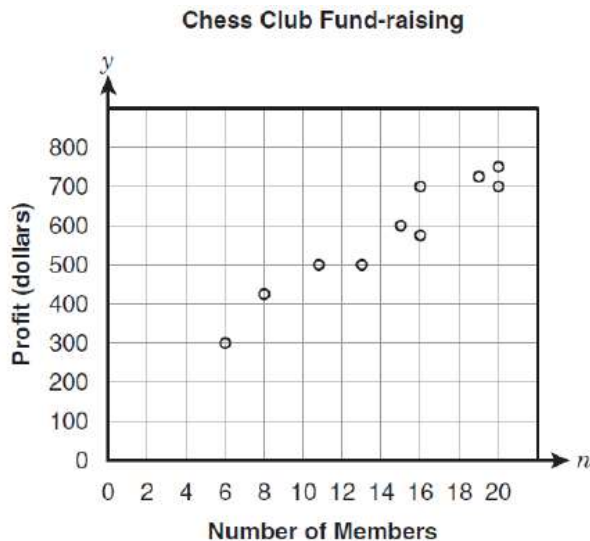
B. $r = 1$

C.

D.



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



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. $y = \frac{200}{3}n + 180$

FS Algebra 1 EOC Review

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

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

Write a function to model this situation.

4. 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. $C(w) = 200 - 15h$

FS Algebra 1 EOC Review

MAFS.912.S-ID.3.8

July December Correlation

The Weather Service collected data to determine the average temperatures in July and December in Springfield for the years 1990 through 1995. The data are displayed below.

Year	1990	1991	1992	1993	1994	1995
Average temperature in July	74	84	80	82	75	81
Average temperature in December	50	44	46	48	51	45

1. Use technology to compute the correlation coefficient between average temperatures in July and average temperatures in December and report the correlation coefficient below.

2. Explain what this correlation coefficient indicates about the relationship between average temperatures in July and average temperatures in December.

How Big Are Feet

A survey in a school produced data for foot length and height. The data for the first 10 males in the survey are provided in the table.

Height (in centimeters)	111	136	147	133	148	125	183	184	125	170
Foot Length (in centimeters)	15	21	20	20	23	20	28	25	18	27.5

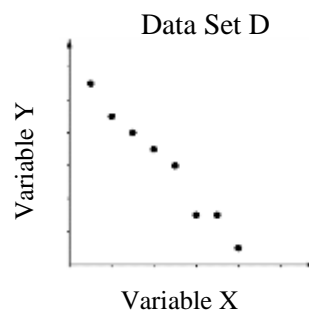
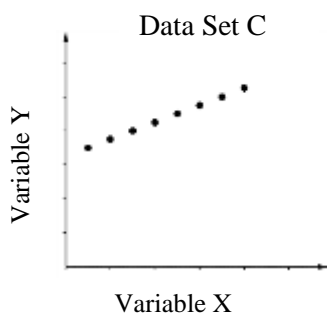
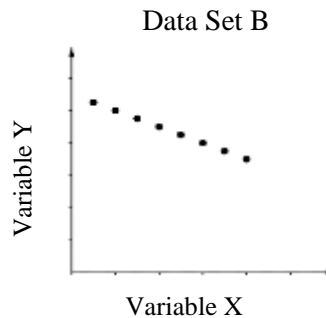
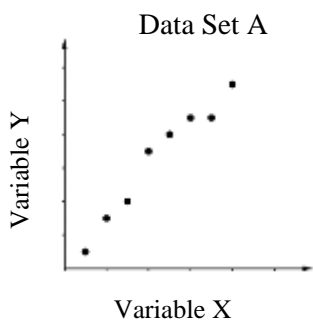
1. Use technology (e.g., graphing calculator, electronic spreadsheet) to compute the correlation coefficient and report it below.

2. Explain what this correlation coefficient indicates about the relationship between height and foot length.

FS Algebra 1 EOC Review

Correlation Order

The graphs of four sets of data are shown below.



1. Estimate the correlation coefficient for each set of data. Then order the data sets from least to greatest in terms of the strength of the relationship. Explain your reasoning.

Correlation for Life Expectancy

The table displays the ages of a sample of females and their life expectancies. Life expectancy is the average number of years that a person will live beyond her current age.

1. Use technology to compute a correlation coefficient and record it below.

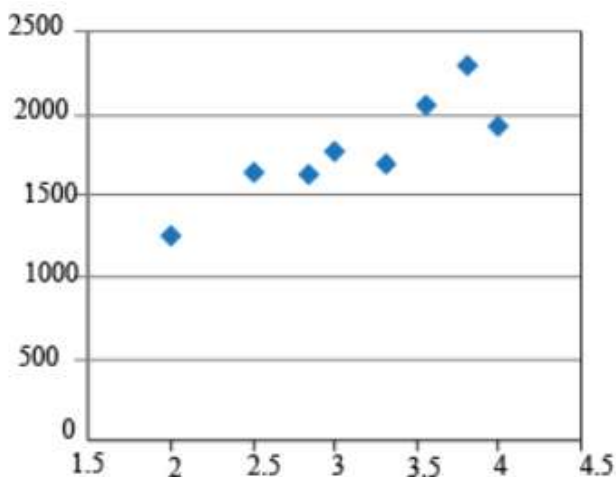
Age (in years)	30	35	40	45	50	55	60	65	70
Life Expectancy (in years)	50.6	45.8	41.0	36.4	31.8	27.4	23.1	19.1	15.4

2. Explain what this correlation coefficient indicates about the relationship between age and life expectancy.

FS Algebra 1 EOC Review

MAFS.912.S-ID.3.8 EOC Practice

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. 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

FS Algebra 1 EOC Review

MAFS.912.S-ID.3.9

Does the Drug Cause Diabetes?

A significant source of excess cholesterol is dietary fat. Another problem that affects many people is diabetes, caused to a large degree by excess weight. Medication A is used to reduce the amount of cholesterol in a person's blood. A researcher indicates that those taking medication A are six times more likely to develop diabetes than those NOT taking medication A. Can one infer from this that medication A is a major cause of diabetes? Explain your response clearly.

Sleep and Reading

A researcher collected data from a random sample of 500 students in grades K-8. The data included the average number of hours each student slept at night in 2012 and the students' average scores from a common reading exam.

The result was a correlation coefficient of -0.48.

1. Describe a possible causal relationship between the variables in the data.
2. Does the correlation coefficient indicate that the relationship between the variables is cause and effect? Explain.

Does Studying Pay?

The Springfield School District has 1000 students enrolled in Algebra 1. Each student was asked to indicate the number of hours devoted to studying for the final examination during the prior five days. The table shows a summary of the results of the survey and the corresponding examination scores.

N = Number of hours studied	$N < 2$	$2 \leq N < 4$	$4 \leq N < 6$	$6 \leq N < 8$	$N \geq 8$
Number of students	250	300	200	150	100
Average score on the final examination	71	68	76	83	81

1. Do the data indicate that studying more causes examination scores to rise? Explain your reasoning.

FS Algebra 1 EOC Review

MAFS.912.S-ID.3.9 EOC Practice

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