ID: 28c6bd8c

Where Do People Get Most of Their Medical Information?

Source	Percent of those surveyed
Doctor	63%
Internet	13%
Magazines/brochures	9%
Pharmacy	6%
Television	2%
Other/none of the above	7%

The table above shows a summary of 1,200 responses to a survey question. Based on the table, how many of those surveyed get most of their medical information from either a doctor or the Internet?

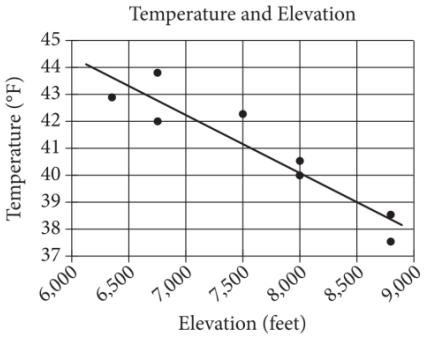
A. 865

B. 887

C. 912

D. 926

ID: ac5b6558



The scatterplot above shows the high temperature on a certain day and the elevation of 8 different locations in the Lake Tahoe Basin. A line of best fit for the data is also shown. What temperature is predicted by the line of best fit for a location in the Lake Tahoe Basin with an elevation of 8,500 feet?

A. 37°F

B. 39°F

C. 41°F

D. 43°F

ID: 41b71b4e

What number is 20% greater than 60 ?

A. 50

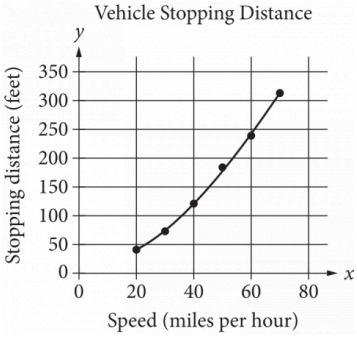
B. 72

C. 75

D. 132

ID: 5c24c861

A study was done to determine a new car's stopping distance when it was traveling at different speeds. The study was done on a dry road with good surface conditions. The results are shown below, along with the graph of a quadratic function that models the data.



According to the model, which of the following is the best estimate for the stopping distance, in feet, if the vehicle was traveling 55 miles per hour?

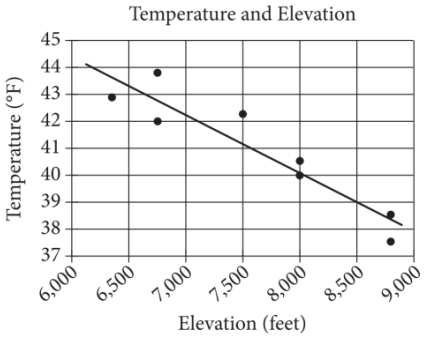
A. 25

B. 30

C. 210

D. 250

ID: 661dfddd



The scatterplot above shows the high temperature on a certain day and the elevation of 8 different locations in the Lake Tahoe Basin. A line of best fit for the data is also shown. Which of the following statements best describes the association between the elevation and the temperature of locations in the Lake Tahoe Basin?

A. As the elevation increases, the temperature tends to increase.

B. As the elevation increases, the temperature tends to decrease.

C. As the elevation decreases, the temperature tends to decrease.

D. There is no association between the elevation and the temperature.

ID: a8fabad0

A waiter receives tips from each customer. On average, the tip is 15% of the customer's bill. At this rate, which of the following is closest to the tip the waiter can expect when a customer has a bill that is $78.20?

A. $8.00

B. $10.00

C. $12.00

D. $14.00

ID: 35bec412

$73, 74, 75, 77, 79, 82, 84, 85, 91$

What is the median of the data shown?

ID: 79201024

A band with 45 members has 11 members who play saxophone. If one band member is selected at random, what is the probability of selecting a band member who plays saxophone?

A. $\frac{1}{45}$

B. $\frac{11}{45}$

C. $\frac{34}{45}$

D. $\frac{45}{45}$

ID: e7d9649f

A random sample of 50 people from a town with a population of 14,878 were asked to name their favorite flavor of ice cream. If 7 people in the sample named chocolate as their favorite ice-cream flavor, about how many people in the town would be expected to name chocolate?

A. 350

B. 2,100

C. 7,500

D. 10,500

ID: aeeaec96

How many yards are equivalent to 612 inches? $(1\ \text{yard} = 36\ \text{inches})$

A. 0.059

B. 17

C. 576

D. $22{,}032$

ID: 15617f62

The population density of Worthington is 290 people per square mile. Worthington has a population of $92{,}800$ people. What is the area, in square miles, of Worthington?

A. $102{,}400$

B. $93{,}090$

C. 320

D. 32

ID: 3f5398a6

For a person *m* miles from a flash of lightning, the length of the time interval from the moment the person sees the lightning to the moment the person hears the thunder is *k* seconds. The ratio of *m* to *k* can be estimated to be 1 to 5. According to this estimate, the person is how many miles from a flash of lightning if the time interval is 25 seconds?

A. 10

B. 9

C. 6

D. 5

ID: f4b3672a

A certain forest is 253 acres. To estimate the number of trees in the forest, a ranger randomly selects 5 different 1-acre parcels in the forest and determines the number of trees in each parcel. The numbers of trees in the sample acres are 51, 59, 45, 52, and 73. Based on the mean of the sample, which of the following ranges contains the best estimate for the number of trees in the entire forest?

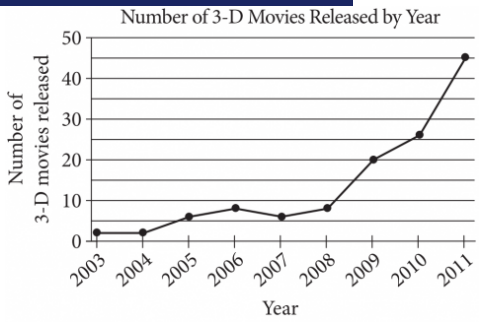
A. 11,000 to 12,000

B. 12,500 to 13,500

C. 13,500 to 14,500

D. 18,000 to 19,000

ID: a6b2fcce



According to the line graph above, between which two consecutive years was there the greatest change in the number of 3-D movies released?

A. 2003–2004

B. 2008–2009

C. 2009–2010

D. 2010–2011

ID: 4bb25495

Five Smallest Countries in 2016

Country	Land area (square kilometers)
Monaco	2.0
Nauru	21
San Marino	61
Tuvalu	26
Vatican City	0.44

The table above shows the land area, in square kilometers, of the five smallest countries of the world in 2016. Based on the table, what is the mean land area of the 5 smallest countries in 2016, to the nearest square kilometer?

A. 20

B. 22

C. 61

D. 110

ID: bb7c8186

What is 23% of 100?

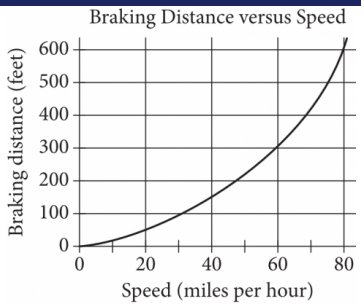
A. 23

B. 46

C. 77

D. 123

ID: d6121490



The graph above shows the relationship between the speed of a particular car, in miles per hour, and its corresponding braking distance, in feet. Approximately how many feet greater will the car's braking distance be when the car is traveling at 50 miles per hour than when the car is traveling at 30 miles per hour?

A. 75

B. 125

C. 175

D. 250

ID: c54b92a2

A study was conducted on the production rates for a company that produces tractor wheels. The table below shows the number of wheels made during 11 consecutive one-hour production periods.

One-hour period	Number of wheels made
A	24
B	24
C	21
D	21
E	21
F	19
G	24
H	24
I	19
J	22
K	23

What is the range of the number of wheels made for the 11 one-hour periods?

A. 5.5

B. 5.0

C. 4.5

D. 4.0

ID: d1db8def

Response	Frequency
Once a week or more	3
Two or three times a month	16
About once a month	26
A few times a year	73
Almost never	53
Never	29
Total	200

The table gives the results of a survey of 200 people who were asked how often they see a movie in a theater. How many people responded either “never” or “almost never”?

A. 24

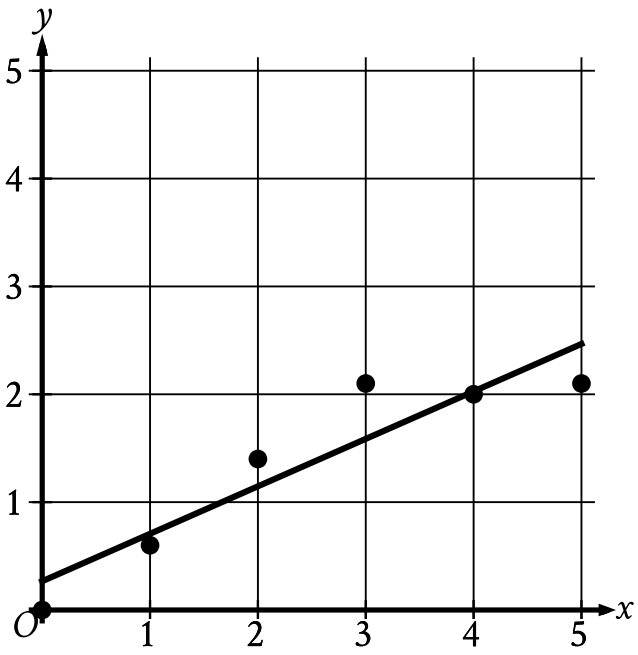
B. 53

C. 82

D. 118

ID: 39aa146d

The scatterplot shows the relationship between x and y. A line of best fit is also shown.



Which of the following is closest to the slope of the line of best fit shown?

A. -2.27

B. -0.44

C. 0.44

D. 2.27

ID: 1353b86e

Colors of Marbles in a Bag

Color	Number
Red	8
Blue	10
Green	22
Total	40

The table shows the number of different colors of marbles in a bag. If a marble is chosen at random from the bag, what is the probability that the marble will be blue?

A. $\frac{30}{40}$

B. $\frac{22}{40}$

C. $\frac{18}{40}$

D. $\frac{10}{40}$

ID: 9bf4c545

The members of a city council wanted to assess the opinions of all city residents about converting an open field into a dog park. The council surveyed a sample of 500 city residents who own dogs. The survey showed that the majority of those sampled were in favor of the dog park. Which of the following is true about the city council's survey?

A. It shows that the majority of city residents are in favor of the dog park.

B. The survey sample should have included more residents who are dog owners.

C. The survey sample should have consisted entirely of residents who do not own dogs.

D. The survey sample is biased because it is not representative of all city residents.

ID: be35c117

A wind turbine completes 900 revolutions in 50 minutes. At this rate, how many revolutions per minute does this turbine complete?

A. 18

B. 850

C. 950

D. $1{,}400$

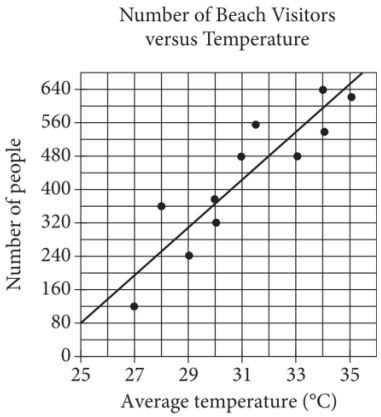
ID: 4b09f783

A list of 10 data values is shown.

$6, 8, 16, 4, 17, 26, 8, 5, 5, 5$

What is the mean of these data?

ID: 8156d446



Each dot in the scatterplot above represents the temperature and the number of people who visited a beach in Lagos, Nigeria, on one of eleven different days. The line of best fit for the data is also shown. According to the line of best fit, what is the number of people, rounded to the nearest 10, predicted to visit this beach on a day with an average temperature of 32°C?

ID: 873d2838

The population density of Cedar County is 230 people per square mile. The county has a population of $85{,}100$ people. What is the area, in square miles, of Cedar County?

ID: 7b731fc3

What number is 40% greater than 115?

ID: 38a9ac45

If 1,200 customers register for new accounts at a social media website every day, what fraction of the first 60,000 new accounts are registered in the first 5 days?

A. $\frac{1}{5}$

B. $\frac{1}{10}$

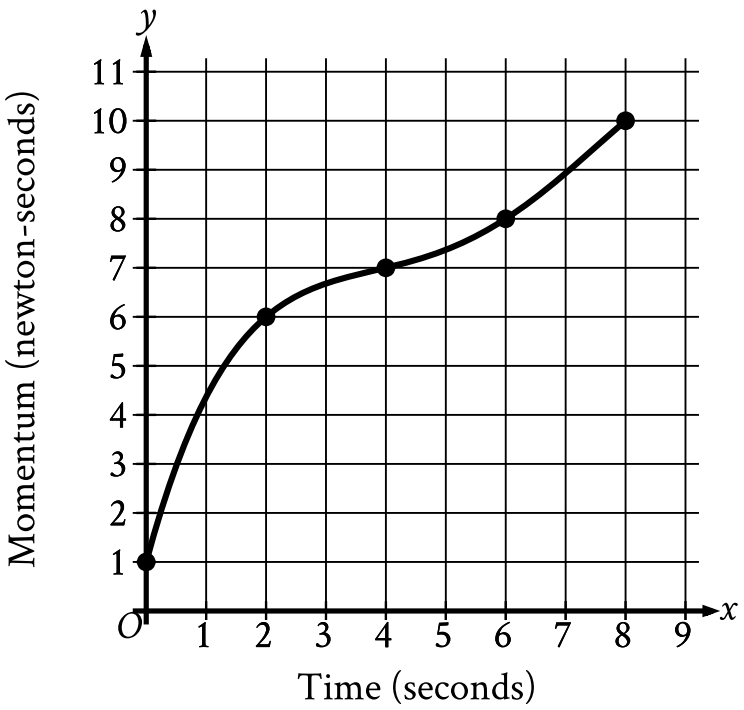
C. $\frac{1}{12}$

D. $\frac{1}{50}$

ID: 30db8f77

At a conference, there are a total of 275 attendees. Each attendee is assigned to either group A, group B, or group C. If one of these attendees is selected at random, the probability of selecting an attendee who is assigned to group A is 0.44 and the probability of selecting an attendee who is assigned to group B is 0.24. How many attendees are assigned to group C?

ID: 9bb4107c



The graph shows the momentum y, in newton-seconds, of an object x seconds after the object started moving, for $0 \leq x \leq 8$. What is the average rate of change, in newton-seconds per second, in the momentum of the object from $x = 2$ to $x = 6$?

ID: 707db2d3

For the finale of a TV show, viewers could use either social media or a text message to vote for their favorite of two contestants. The contestant receiving more than 50% of the vote won. An estimated 10% of the viewers voted, and 30% of the votes were cast on social media. Contestant 2 earned 70% of the votes cast using social media and 40% of the votes cast using a text message. Based on this information, which of the following is an accurate conclusion?

A. If all viewers had voted, Contestant 2 would have won.

B. Viewers voting by social media were likely to be younger than viewers voting by text message.

C. If all viewers who voted had voted by social media instead of by text message, Contestant 2 would have won.

D. Viewers voting by social media were more likely to prefer Contestant 2 than were viewers voting by text message.

ID: 7b65bb28

Station 1	Station 2	Station 3	Station 4	Station 5
$3.699	$3.609	$3.729	$3.679	$3.729

In the table above, Melissa recorded the price of one gallon of regular gas from five different local gas stations on the same day. What is the median of the gas prices Melissa recorded?

A. $3.679

B. $3.689

C. $3.699

D. $3.729

ID: 566759ef

Thomas installed a new stove in his restaurant. At the time of installation, the stove had a value of $800. Thomas estimates that each year the value of the stove will depreciate by 20% of the previous year's estimated value. What is the estimated value of the stove exactly 2 years after Thomas installed it?

A. $480

B. $512

C. $556

D. $640

ID: 9e2bf782

A fish hatchery has three tanks for holding fish before they are introduced into the wild. Ten fish weighing less than 5 ounces are placed in tank A. Eleven fish weighing at least 5 ounces but no more than 13 ounces are placed in tank B. Twelve fish weighing more than 13 ounces are placed in tank C. Which of the following could be the median of the weights, in ounces, of these 33 fish?

A. 4.5

B. 8

C. 13.5

D. 15

ID: 96c3e32d

One side of a flat board has an area of 874 square inches. If a pressure of 19 pounds per square inch of area is exerted on this side of the board, what is the total force, in pounds, exerted on this side of the board?

ID: ec787383

A distance of 61 furlongs is equivalent to how many feet? $(1\ \text{furlong} = 220\ \text{yards and}\ 1\ \text{yard} = 3\ \text{feet})$

ID: b4f5a7ca

A survey was conducted using a sample of history professors selected at random from the California State Universities. The professors surveyed were asked to name the publishers of their current texts. What is the largest population to which the results of the survey can be generalized?

A. All professors in the United States

B. All history professors in the United States

C. All history professors at all California State Universities

D. All professors at all California State Universities

ID: 8917ce38

Which of the following speeds is equivalent to 90 kilometers per hour? (1 kilometer = 1,000 meters)

A. 25 meters per second

B. 32 meters per second

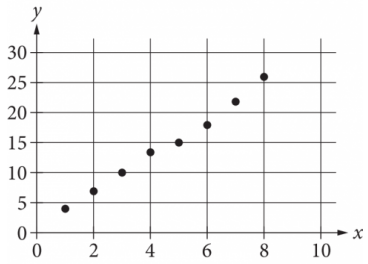
C. 250 meters per second

D. 324 meters per second

ID: 89c39d77

A competition consisted of four different events. One participant completed the first event with an average speed of 20.300 miles per hour. What was this average speed, in yards per hour? $(1\ \text{mile} = 1{,}760\ \text{yards})$

ID: 9eb896c5



Which of the following could be the equation for a line of best fit for the data shown in the scatterplot above?

A. $y = 3x + 0.8$

B. $y = 0.8x + 3$

C. $y = -0.8x + 3$

D. $y = -3x + 0.8$

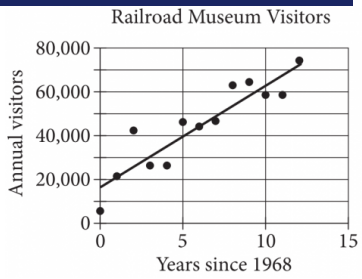
ID: 94c65646

432 is 96% of what number?

ID: d693f563

Last year, Cedric had 35 plants in his garden. This year, the number of plants in Cedric's garden is 60% greater than the number of plants in his garden last year. How many plants does Cedric have in his garden this year?

ID: 3c5b19ef



The scatterplot above shows the number of visitors to a railroad museum in Pennsylvania each year from 1968 to 1980, where t is the number of years since 1968 and n is the number of visitors. A line of best fit is also shown. Which of the following could be an equation of the line of best fit shown?

A. $n = 16{,}090 + 4{,}680t$

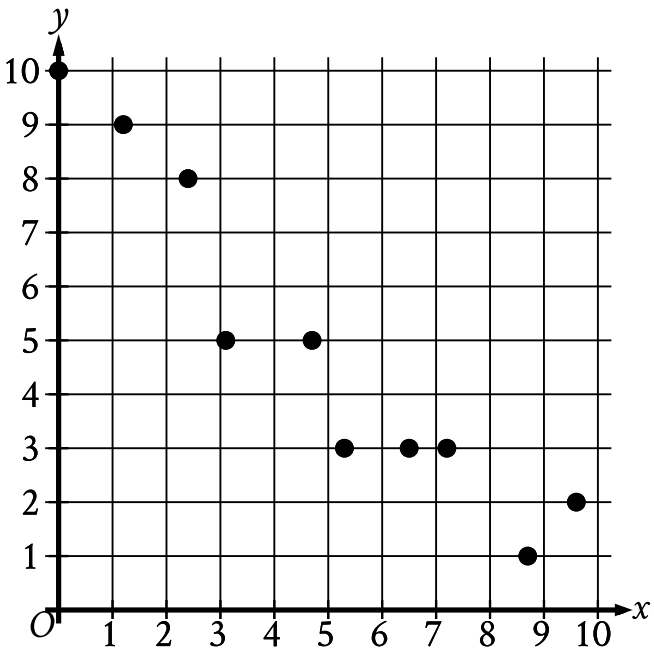
B. $n = 4{,}690 + 16{,}090t$

C. $n = 16{,}090 + 9{,}060t$

D. $n = 9{,}060 + 16{,}090t$

ID: 50b2807e

The scatterplot shows the relationship between two variables, x and y.



Which of the following equations is the most appropriate linear model for the data shown?

A. $y = 0.9 + 9.4x$

B. $y = 0.9 - 9.4x$

C. $y = 9.4 + 0.9x$

D. $y = 9.4 - 0.9x$

ID: 0ae37ff3

In a bag, there are 7 red, 4 white, 33 blue, and 33 yellow cubes. If one of these cubes is selected at random, what is the probability of selecting a cube that is neither blue nor yellow?

A. $\frac{6}{7}$

B. $\frac{7}{11}$

C. $\frac{1}{3}$

D. $\frac{1}{7}$

ID: 94237701

For a certain computer game, individuals receive an integer score that ranges from 2 through 10. The table below shows the frequency distribution of the scores of the 9 players in group A and the 11 players in group B.

Score	Score Frequencies	
	Group A	Group B
2	1	0
3	1	0
4	2	0
5	1	4
6	3	2
7	0	0
8	0	2
9	1	1
10	0	2
Total	9	11

The median of the scores for group B is how much greater than the median of the scores for group A?

ID: 040f2a84

The regular price of a shirt at a store is $\$11.70$. The sale price of the shirt is 80% less than the regular price, and the sale price is 30% greater than the store's cost for the shirt. What was the store's cost, in dollars, for the shirt? (Disregard the $\$$ sign when entering your answer. For example, if your answer is $\$4.97$, enter 4.97)

ID: 1ea09200

A sample of 40 fourth-grade students was selected at random from a certain school. The 40 students completed a survey about the morning announcements, and 32 thought the announcements were helpful. Which of the following is the largest population to which the results of the survey can be applied?

A. The 40 students who were surveyed

B. All fourth-grade students at the school

C. All students at the school

D. All fourth-grade students in the county in which the school is located

ID: 8213b1b3

According to a set of standards, a certain type of substance can contain a maximum of 0.001% phosphorus by mass. If a sample of this substance has a mass of 140 grams, what is the maximum mass, in grams, of phosphorus the sample can contain to meet these standards?

ID: 7ce2830a

A psychologist designed and conducted a study to determine whether playing a certain educational game increases middle school students' accuracy in adding fractions. For the study, the psychologist chose a random sample of 35 students from all of the students at one of the middle schools in a large city. The psychologist found that students who played the game showed significant improvement in accuracy when adding fractions. What is the largest group to which the results of the study can be generalized?

A. The 35 students in the sample

B. All students at the school

C. All middle school students in the city

D. All students in the city

ID: 98958ae8

Data set A consists of the heights of 75 objects and has a mean of 25 meters. Data set B consists of the heights of 50 objects and has a mean of 65 meters. Data set C consists of the heights of the 125 objects from data sets A and B. What is the mean, in meters, of data set C?

ID: 7d68096f

A trivia tournament organizer wanted to study the relationship between the number of points a team scores in a trivia round and the number of hours that a team practices each week. For the study, the organizer selected 55 teams at random from all trivia teams in a certain tournament. The table displays the information for the 40 teams in the sample that practiced for at least 3 hours per week.

Hours practiced	Number of points per round		
	6 to 13 points	14 or more points	Total
3 to 5 hours	6	4	10
More than 5 hours	4	26	30
Total	10	30	40

Which of the following is the largest population to which the results of the study can be generalized?

A. All trivia teams in the tournament that scored 14 or more points in the round

B. The 55 trivia teams in the sample

C. The 40 trivia teams in the sample that practiced for at least 3 hours per week

D. All trivia teams in the tournament

ID: 954943a4

Jennifer bought a box of Crunchy Grain cereal. The nutrition facts on the box state that a serving size of the cereal is $\frac{3}{4}$ cup and provides 210 calories, 50 of which are calories from fat. In addition, each serving of the cereal provides 180 milligrams of potassium, which is 5% of the daily allowance for adults. If p percent of an adult's daily allowance of potassium is provided by x servings of Crunchy Grain cereal per day, which of the following expresses p in terms of x ?

A. $p = 0.5x$

B. $p = 5x$

C. $p = (0.05)^x$

D. $p = (1.05)^x$

ID: ad911622

The value of a collectible comic book increased by 167% from the end of 2011 to the end of 2012 and then decreased by 16% from the end of 2012 to the end of 2013. What was the net percentage increase in the value of the collectible comic book from the end of 2011 to the end of 2013?

A. 124.28%

B. 140.28%

C. 151.00%

D. 209.72%

ID: 651d83bb

Two different teams consisting of 10 members each ran in a race. Each member's completion time of the race was recorded. The mean of the completion times for each team was calculated and is shown below.
Team A: 3.41 minutes
Team B: 3.79 minutes

Which of the following MUST be true?

1. Every member of team A completed the race in less time than any member of team B.
2. The median time it took the members of team B to complete the race is greater than the median time it took the members of team A to complete the race.
3. There is at least one member of team B who took more time to complete the race than some member of team A.

A. III only

B. I and III only

C. II and III only

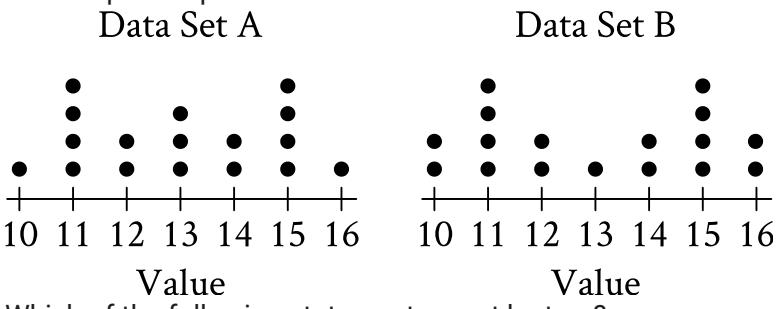
D. I, II, and III

ID: 8637294f

If $\frac{4a}{b} = 6.7$ and $\frac{a}{bn} = 26.8$, what is the value of n?

ID: d65b9a87

The dot plots represent the distributions of values in data sets A and B.



Which of the following statements must be true?

I. The median of data set A is equal to the median of data set B.

II. The standard deviation of data set A is equal to the standard deviation of data set B.

A. I only

B. II only

C. I and II

D. Neither I nor II

ID: 7d721177

The density of a certain type of wood is 353 kilograms per cubic meter. A sample of this type of wood is in the shape of a cube and has a mass of 345 kilograms. To the nearest hundredth of a meter, what is the length of one edge of this sample?

A. 0.98

B. 0.99

C. 1.01

D. 1.02

ID: c9fb15ad

Species of tree	Growth factor
Red maple	4.5
River birch	3.5
Cottonwood	2.0
Black walnut	4.5
White birch	5.0
American elm	4.0
Pin oak	3.0
Shagbark hickory	7.5

One method of calculating the approximate age, in years, of a tree of a particular species is to multiply the diameter of the tree, in inches, by a constant called the growth factor for that species. The table above gives the growth factors for eight species of trees. If a white birch tree and a pin oak tree each now have a diameter of 1 foot, which of the following will be closest to the difference, in inches, of their diameters 10 years from now? (1 foot = 12 inches)

A. 1.0

B. 1.2

C. 1.3

D. 1.4

ID: bf47ad54

Each of the following frequency tables represents a data set. Which data set has the greatest mean?

A.

Value	Frequency
70	4
80	5
90	6
100	7

B.

Value	Frequency
70	6
80	6
90	6
100	6

C.

Value	Frequency
70	7
80	6
90	6
100	7

D.

Value	Frequency
70	8
80	5
90	5
100	8