

A city has 50 city council members. A reporter polled a random sample of 20 city council members and found that 6 of those polled supported a specific bill. Based on the sample, which of the following is the best estimate of the number of city council members in the city who support the bill?

- A. 6
- B. 9
- C. 15
- D. 30

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

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?

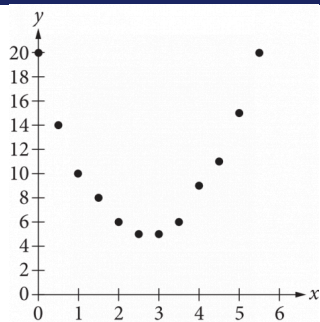
- A. 11,000 to 12,000
- B. 12,500 to 13,500
- C. 13,500 to 14,500
- D. 18,000 to 19,000

At a large high school, 300 students were selected at random and were asked in a survey about a menu change in the school cafeteria. All 300 students completed the survey. It was estimated that 38% of the students were in support of a menu change, with a margin of error of 5.5%. Which of the following is the best interpretation of the survey results?

- A. The percent of the students at the school who support a menu change is 38%.
- B. The percent of the students at the school who support a menu change is greater than 38%.
- C. Plausible values of the percent of the students at the school who support a menu change are between 32.5% and 43.5%.
- D. Plausible values of the number of the students at the school who support a menu change are between 295 and 305.

In a study, the data from a random sample of a population had a mean of 37, with an associated margin of error of 3. Which of the following is the most appropriate conclusion that can be made about the population mean?

- A. It is less than 37.
- B. It is greater than 37.
- C. It is between 34 and 40.
- D. It is less than 34 or greater than 40.



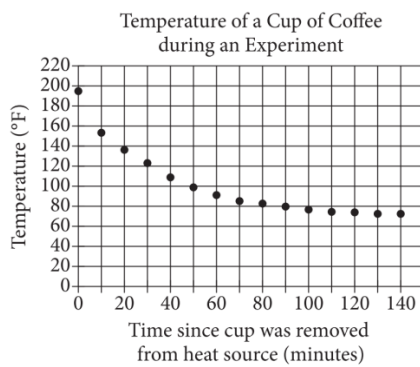
Of the following, which is the best model for the data in the scatterplot?

A. $y = 2x^2 - 11x - 20$

B. $y = 2x^2 - 11x + 20$

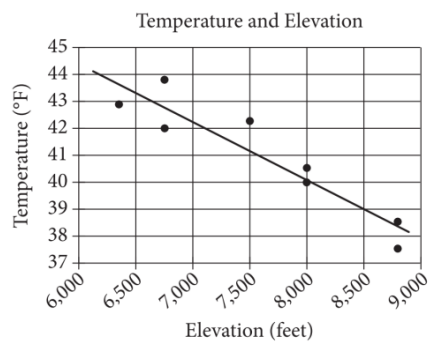
C. $y = 2x^2 - 5x - 3$

D. $y = 2x^2 - 5x + 3$



In an experiment, a heated cup of coffee is removed from a heat source, and the cup of coffee is then left in a room that is kept at a constant temperature. The graph above shows the temperature, in degrees Fahrenheit ($^{\circ}\text{F}$), of the coffee immediately after being removed from the heat source and at 10-minute intervals thereafter. During which of the following 10-minute intervals does the temperature of the coffee decrease at the greatest average rate?

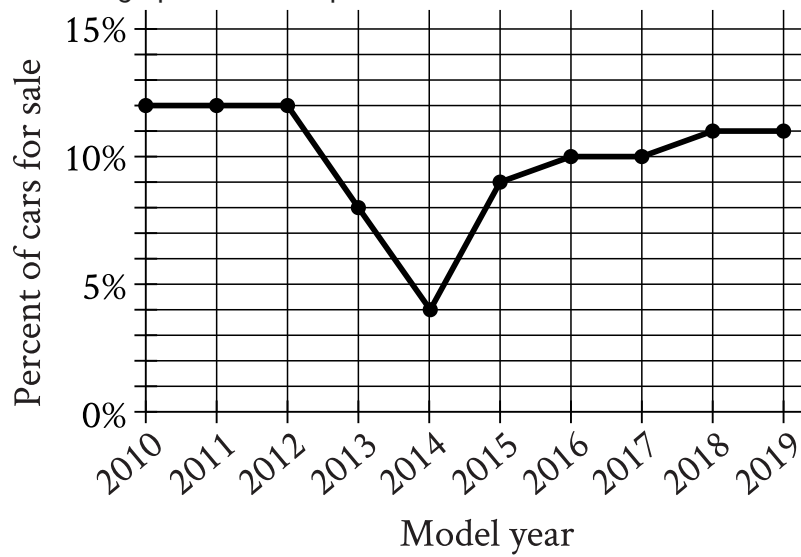
- A. Between 0 and 10 minutes
- B. Between 30 and 40 minutes
- C. Between 50 and 60 minutes
- D. Between 90 and 100 minutes



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?

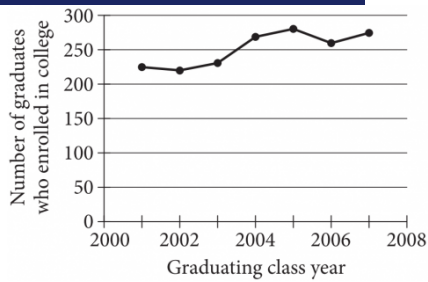
- A. 37°F
- B. 39°F
- C. 41°F
- D. 43°F

The line graph shows the percent of cars for sale at a used car lot on a given day by model year.



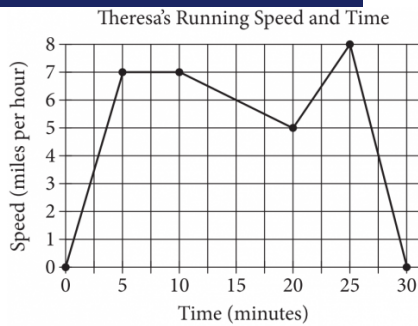
For what model year is the percent of cars for sale the smallest?

- A. 2012
- B. 2013
- C. 2014
- D. 2015



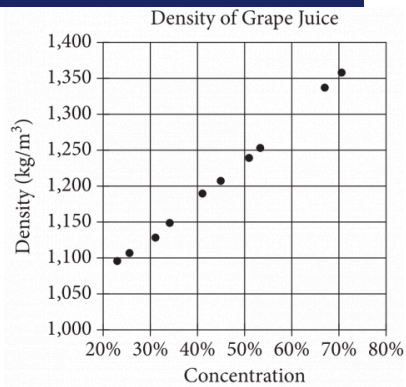
The line graph shows the number of graduates from the classes of 2001 through 2007 at a certain school who enrolled in college within 24 months of graduation. Of the following, which class had the fewest graduates who enrolled in college within 24 months of graduation?

- A. 2002
- B. 2004
- C. 2005
- D. 2007



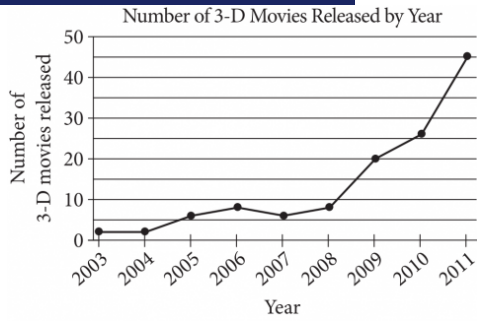
Theresa ran on a treadmill for thirty minutes, and her time and speed are shown on the graph above. According to the graph, which of the following statements is NOT true concerning Theresa's run?

- A. Theresa ran at a constant speed for five minutes.
- B. Theresa's speed was increasing for a longer period of time than it was decreasing.
- C. Theresa's speed decreased at a constant rate during the last five minutes.
- D. Theresa's speed reached its maximum during the last ten minutes.



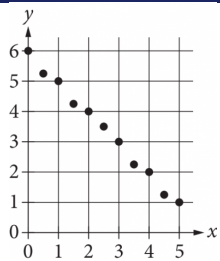
The densities of different concentrations of grape juice are shown in the scatterplot above. According to the trend shown by the data, which of the following is closest to the predicted density, in kilograms per cubic meter (kg/m^3), for grape juice with a concentration of 60%?

- A. 1,200
- B. 1,250
- C. 1,300
- D. 1,350



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



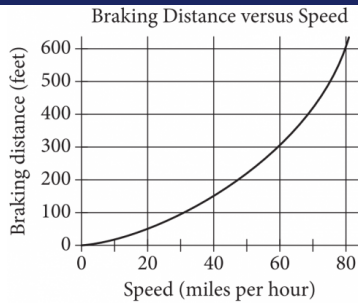
Which of the following could be an equation for a line of best fit for the data in the scatterplot?

A. $y = -x + 6$

B. $y = -x - 6$

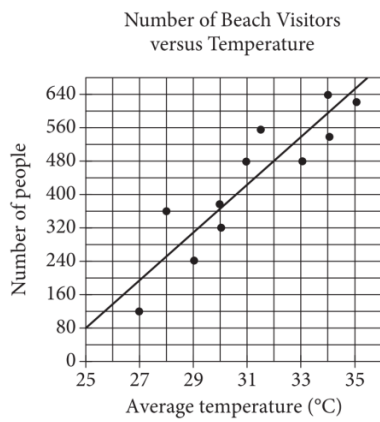
C. $y = 6x + 1$

D. $y = 6x - 1$



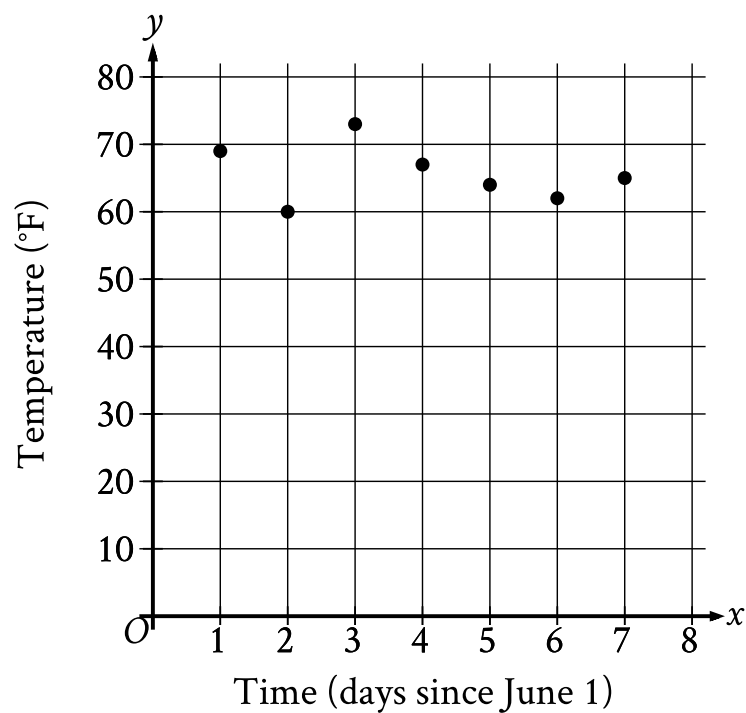
The graph above shows the relationship between the speed of a particular car, in miles per hour, and its corresponding braking distance, in feet. Approximately how many feet greater will the car's braking distance be when the car is traveling at 50 miles per hour than when the car is traveling at 30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

- A. 75
- B. 125
- C. 175
- D. 250



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 ?

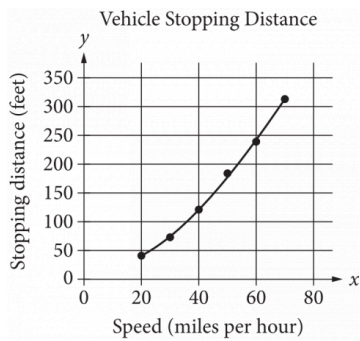
The scatterplot shows the temperature y , in $^{\circ}\text{F}$, recorded by a meteorologist at various times x , in days since June 1.



During which of the following time periods did the greatest increase in recorded temperature take place?

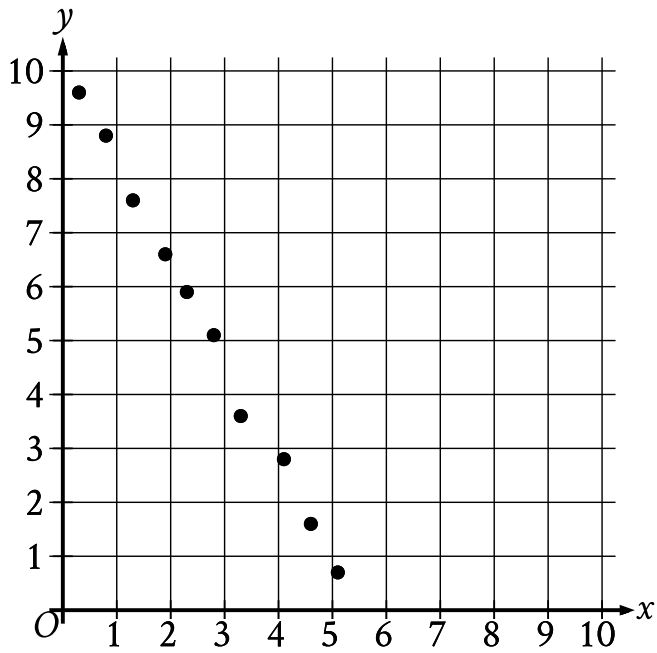
- A. From $x = 6$ to $x = 7$
- B. From $x = 5$ to $x = 6$
- C. From $x = 2$ to $x = 3$
- D. From $x = 1$ to $x = 2$

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.



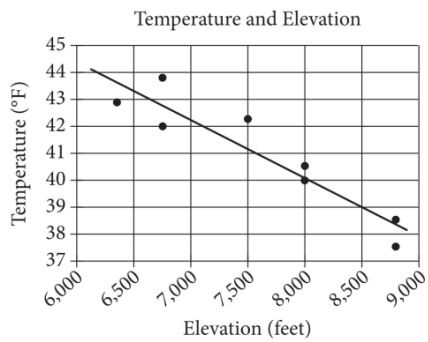
According to the model, which of the following is the best estimate for the stopping distance, in feet, if the vehicle was traveling 55 miles per hour?

- A. 25
- B. 30
- C. 210
- D. 250



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

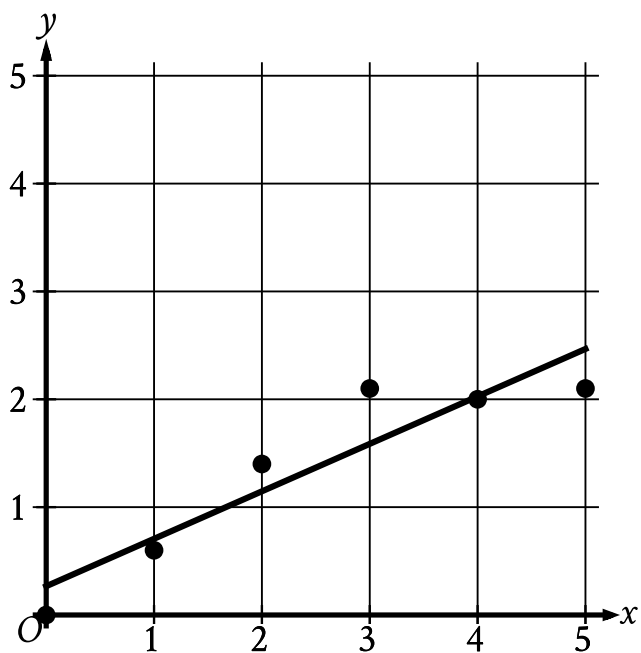
- A. $y = -1.9x - 10.1$
- B. $y = -1.9x + 10.1$
- C. $y = 1.9x - 10.1$
- D. $y = 1.9x + 10.1$



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?

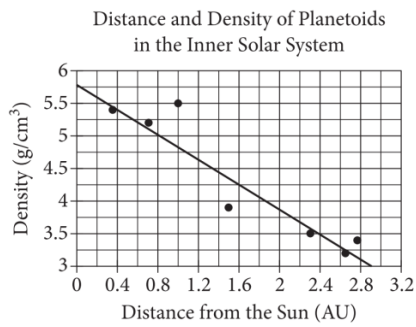
- A. As the elevation increases, the temperature tends to increase.
- B. As the elevation increases, the temperature tends to decrease.
- C. As the elevation decreases, the temperature tends to decrease.
- D. There is no association between the elevation and the temperature.

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



The scatterplot above shows the densities of 7 planetoids, in grams per cubic centimeter, with respect to their average distances from the Sun in astronomical units (AU). The line of best fit is also shown. An astronomer has discovered a new planetoid about 1.2 AU from the Sun. According to the line of best fit, which of the following best approximates the density of the planetoid, in grams per cubic centimeter?

- A. 3.6
- B. 4.1
- C. 4.6
- D. 5.5

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

A group of monarch butterflies migrated from Chicago, Illinois, to Michoacán, Mexico, flying a total of 2,100 miles. It took a single butterfly in the group 120 days to travel this route one way. On average, how many miles did the butterfly travel per day?

- A. 0.057
- B. 0.729
- C. 17.5
- D. 24

In a box of pens, the ratio of black pens to red pens is **8** to **1**. There are **40** black pens in the box. How many red pens are in the box?

- A. **5**
- B. **8**
- C. **40**
- D. **320**

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**

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**

x	y
1	4
3	12
5	20
40	k

In the table above, the ratio of y to x for each ordered pair is constant. What is the value of k ?

- A. 28
- B. 36
- C. 80
- D. 160

The ratio of t to u is 1 to 2, and $t = 10$.

What is the value of u ?

- A. 2
- B. 5
- C. 10
- D. 20

ID: 2d16d62c

A special camera is used for underwater ocean research. When the camera is at a depth of **58** fathoms, what is the camera's depth in feet? (**1 fathom = 6 feet**)

How many yards are equivalent to **612** inches? (**1 yard = 36 inches**)

- A. **0.059**
- B. **17**
- C. **576**
- D. **22,032**

Shaquan has 7 red cards and 28 blue cards. What is the ratio of red cards to blue cards that Shaquan has?

- A. 1 to 4
- B. 4 to 1
- C. 1 to 7
- D. 7 to 1

A cherry pitting machine pits **12** pounds of cherries in **3** minutes. At this rate, how many minutes does it take the machine to pit **96** pounds of cherries?

- A. **8**
- B. **15**
- C. **24**
- D. **36**

A kangaroo has a mass of **28** kilograms. What is the kangaroo's mass, in grams? (**1 kilogram = 1,000 grams**)

- A. **28,000**
- B. **1,028**
- C. **972**
- D. **784**

The weight of an object on Venus is approximately $\frac{9}{10}$ of its weight on Earth. The weight of an object on Jupiter is approximately $\frac{23}{10}$ of its weight on Earth. If an object weighs 100 pounds on Earth, approximately how many more pounds does it weigh on Jupiter than it weighs on Venus?

- A. 90
- B. 111
- C. 140
- D. 230

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How many feet are equivalent to **34** yards? (**1 yard = 3 feet**)

To make a bakery's signature chocolate muffins, a baker needs 2.5 ounces of chocolate for each muffin. How many pounds of chocolate are needed to make 48 signature chocolate muffins? (1 pound = 16 ounces)

- A. 7.5
- B. 10
- C. 50.5
- D. 120

A fish swam a distance of **5,104** yards. How far did the fish swim, in miles? (**1 mile = 1,760 yards**)

- A. **0.3**
- B. **2.9**
- C. **3,344**
- D. **6,864**

Marta has 7,500 pesos she will convert to US dollars using a currency exchange service. At this time, the currency exchange rate is 1 peso = 0.075 US dollars. The exchange service will charge Marta a 2% fee on the converted US dollar amount. How many US dollars will Marta receive from the currency exchange after the 2% fee is applied?

- A. \$551.25
- B. \$562.50
- C. \$5,625.00
- D. \$98,000.00

Tilly earns p dollars for every w hours of work. Which expression represents the amount of money, in dollars, Tilly earns for $39w$ hours of work?

A. $39p$

B. $\frac{p}{39}$

C. $p + 39$

D. $p - 39$

Makayla is planning an event in a 5,400-square-foot room. If there should be at least 8 square feet per person, what is the maximum number of people that could attend this event?

- A. 588
- B. 675
- C. 15,274
- D. 43,200

If $t = 4u$, which of the following is equivalent to $2t$?

A. $8u$

B. $2u$

C. u

D. $\frac{1}{2}u$

How many teaspoons are equivalent to ~~44~~ tablespoons? (**3 teaspoons = 1 tablespoon**)

- A. ~~47~~
- B. ~~88~~
- C. **132**
- D. **176**

The ratio x to y is equivalent to the ratio 12 to t . When $x = 156$, what is the value of y in terms of t ?

- A. $13t$
- B. $12t$
- C. $144t$
- D. $168t$

2, 2, 2, 3, 4, 4, 11

What is the median of the seven data values shown?

- A. 2
- B. 3
- C. 4
- D. 9

ID: 8736334b

Data set A: 72,73,73,76,76

Data set B: 61,64,74,85, x

Data set A and data set B each contain 5 numbers. If the mean of data set A is equal to the mean of data set B, what is the value of x ?

- A. 77
- B. 85
- C. 86
- D. 95

For a school fund-raiser, 10 students sold a total of 90 boxes of cookies. Which of the following can be calculated from this information?

- A. The average number of boxes sold per student
- B. The median number of boxes sold per student
- C. The greatest number of boxes sold by one student
- D. The least number of boxes sold by one student

ID: 35bec412

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

What is the median of the data shown?

2, 9, 14, 23, 32

What is the mean of the data shown?

- A. **14**
- B. **16**
- C. **17**
- D. **32**

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?

6, 6, 8, 8, 8, 10, 21

Which of the following lists represents a data set that has the same median as the data set shown?

A. **4, 6, 6, 6, 8, 8**

B. **6, 6, 8, 8, 10, 10**

C. **6, 8, 10, 10, 10, 12**

D. **8, 8, 10, 10, 21, 21**

The table below shows the high and low temperatures in Houston, Texas, during a five-day period.

Temperatures in Houston, Texas
(degrees Fahrenheit)

	Monday	Tuesday	Wednesday	Thursday	Friday
High temperature	73	56	62	75	81
Low temperature	49	37	41	54	63

What was the mean low temperature, in degrees Fahrenheit, during the five-day period?

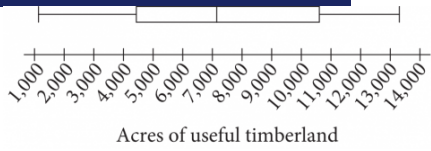
- A. 48.8
- B. 49
- C. 59
- D. 59.1

Data set A: 1, 2, 3, 4, 5, 6, 7

Data set B: 1, 1, 2, 2, 3, 3, 4

Which of the following statements correctly compares the means of data set A and data set B?

- A. The mean of each data set is 2.
- B. The mean of each data set is 4.
- C. The mean of data set A is less than the mean of data set B.
- D. The mean of data set A is greater than the mean of data set B.



The number of acres of useful timberland in 13 counties in California is summarized in the box plot above. Which of the following is closest to the median number of acres?

- A. 4,399
- B. 7,067
- C. 8,831
- D. 10,595

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

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”?

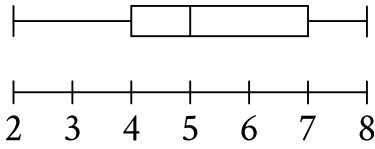
- A. **24**
- B. **53**
- C. **82**
- D. **118**

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



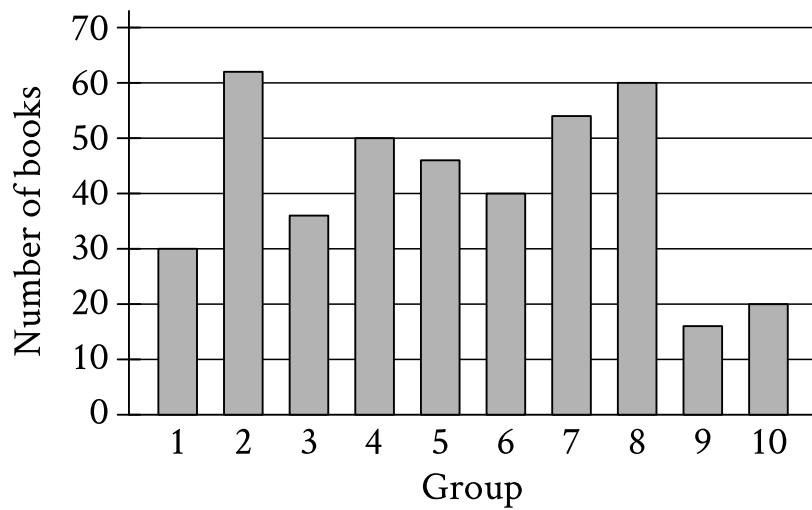
The box plot summarizes **15** data values. What is the median of this data set?

A. **2**

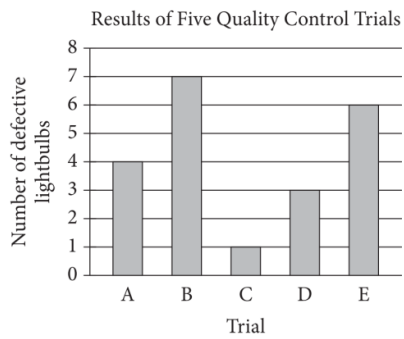
B. **3**

C. **5**

D. **8**



The bar graph shows the distribution of ~~414~~ books collected by **10** different groups for a book drive. How many books were collected by group **1**?



For quality control, a company that manufactures lightbulbs conducted five different trials. In each trial, 500 different lightbulbs were tested. The bar graph above shows the number of defective lightbulbs found in each trial. What is the mean number of defective lightbulbs for the five trials?

- A. 4.0
- B. 4.2
- C. 4.6
- D. 5.0

The high temperature, in degrees Fahrenheit ($^{\circ}\text{F}$), in a certain city was recorded for each of 5 days. The data are shown below.

Day	1	2	3	4	5
High temperature ($^{\circ}\text{F}$)	81	80	81	81	82

Over this 5-day period, which of the following is NOT equal to 81°F ?

- A. Median of the high temperatures
- B. Mean of the high temperatures
- C. Mode of the high temperatures
- D. Range of the high temperatures

Number of High School Students Who
Completed Summer Internships

High school	Year				
	2008	2009	2010	2011	2012
Foothill	87	80	75	76	70
Valley	44	54	65	76	82
Total	131	134	140	152	152

The table above shows the number of students from two different high schools who completed summer internships in each of five years. No student attended both schools. Which of the following statements are true about the number of students who completed summer internships for the 5 years shown?

1. The mean number from Foothill High School is greater than the mean number from Valley High School.
2. The median number from Foothill High School is greater than the median number from Valley High School.

- A. I only
- B. II only
- C. I and II
- D. Neither I nor II

A table of the US minimum wage for 6 different years is shown below.

Year	US minimum wage (dollars per hour)
1960	1.00
1970	1.60
1980	3.10
1990	3.80
2000	5.15
2010	7.25

What was the percent increase of the minimum wage from 1960 to 1970?

- A. 30%
- B. 60%
- C. 62.5%
- D. 120%

The cost of a certain shirt is \$20 before a 5% sales tax is added. What is the total cost, including sales tax, to purchase the shirt?

- A. \$20.05
- B. \$20.50
- C. \$21.00
- D. \$25.00

Last year, **200** students enrolled in an interior design program. This year, the number of students enrolled is **147%** of last year's number. How many students are enrolled in the interior design program this year?

- A. **247**
- B. **294**
- C. **347**
- D. **394**

What is **23%** of **100**?

- A. **23**
- B. **46**
- C. **77**
- D. **123**

The length of the base of a certain parallelogram is **89%** of the height of the parallelogram. Which expression represents the length of the base of the parallelogram, where **h** is the height of the parallelogram?

- A. **$89h$**
- B. **$0.089h$**
- C. **$8.9h$**
- D. **$0.89h$**

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

There are a total of **840** seats in a school auditorium. During an assembly, students occupied **50%** of the seats in the auditorium. How many seats did the students occupy during this assembly?

- A. **25**
- B. **50**
- C. **420**
- D. **790**

Lani spent 15% of her 8-hour workday in meetings. How many minutes of her workday did she spend in meetings?

- A. 1.2
- B. 15
- C. 48
- D. 72

ID: 77cf4fa6

There are **170** blocks in a container. Of these blocks, **10%** are green. How many blocks in the container are green?

Call Ratings

	1 Star	2 Stars	3 Stars	4 Stars	Total
Employee A	16	49	72	8	145
Employee B	4	10	22	34	70
Employee C	8	56	45	16	125
Employee D	22	42	84	12	160
Total	50	157	223	70	500

A supervisor at a call center reviewed 500 calls taken by four employees and rated the employees' performance on each call on a scale from 1 star to 4 stars. The ratings for each employee are shown in the table above. According to the table, to the nearest whole percent, what percent of Employee A's calls received a rating of 1 star?

- A. 3%
- B. 11%
- C. 16%
- D. 32%

There were approximately 113,000 occupational therapy jobs in the United States in 2012. The Bureau of Labor Statistics has projected that this number will increase by 29% from 2012 to 2022. Of the following, which is closest to the number of occupational therapy jobs the bureau has projected for the United States in 2022?

- A. 115,900
- B. 116,300
- C. 142,000
- D. 145,800

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

During a sale, the original prices of all the items in a clothing store have been reduced by 20%. What is the sale price of a jacket with an original price of \$50 ?

- A. \$12
- B. \$30
- C. \$36
- D. \$40

What is 10% of 370?

- A. 27
- B. 37
- C. 333
- D. 360

Rita's total bill at a restaurant was \$25.00, including tax. If she left a tip of 20% of the total bill, what was the amount of the tip?

- A. \$3.50
- B. \$4.00
- C. \$4.50
- D. \$5.00

What number is 20% greater than 60 ?

- A. 50
- B. 72
- C. 75
- D. 132

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.

A market researcher selected 200 people at random from a group of people who indicated that they liked a certain book. The 200 people were shown a movie based on the book and then asked whether they liked or disliked the movie. Of those surveyed, 95% said they disliked the movie. Which of the following inferences can appropriately be drawn from this survey result?

- A. At least 95% of people who go see movies will dislike this movie.
- B. At least 95% of people who read books will dislike this movie.
- C. Most people who dislike this book will like this movie.
- D. Most people who like this book will dislike this movie.

Customer Purchases at a Gas Station

	Beverage purchased	Beverage not purchased	Total
Gasoline purchased	60	25	85
Gasoline not purchased	35	15	50
Total	90	40	135

On Tuesday, a local gas station had 135 customers. The table above summarizes whether or not the customers on Tuesday purchased gasoline, a beverage, both, or neither. Based on the data in the table, what is the probability that a gas station customer selected at random on that day did not purchase gasoline?

- A. $\frac{15}{50}$
- B. $\frac{15}{40}$
- C. $\frac{35}{50}$
- D. $\frac{50}{135}$

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. $\frac{10}{40}$

Number of High School Students Who
Completed Summer Internships

High school	Year				
	2008	2009	2010	2011	2012
Foothill	87	80	75	76	70
Valley	44	54	65	76	82
Total	131	134	140	152	152

The table above shows the number of students from two different high schools who completed summer internships in each of five years. No student attended both schools. Of the students who completed a summer internship in 2010, which of the following represents the fraction of students who were from Valley High School?

A. $\frac{10}{140}$

B. $\frac{65}{140}$

C. $\frac{75}{140}$

D. $\frac{65}{75}$

Voice type	Number of singers
Countertenor	4
Tenor	6
Baritone	10
Bass	5

A total of 25 men registered for singing lessons. The frequency table shows how many of these singers have certain voice types. If one of these singers is selected at random, what is the probability he is a baritone?

- A. 0.10
- B. 0.40
- C. 0.60
- D. 0.67

A survey taken by 1,000 students at a school asked whether they played school sports. The table below summarizes all 1,000 responses from the students surveyed.

	Males	Females
Play a school sport	312	220
Do not play a school sport	?	216

How many of the males surveyed responded that they do not play a school sport?

- A. 109
- B. 252
- C. 468
- D. 688

The table gives the distribution of votes for a new school mascot and grade level for 80 students.

Mascot	Grade level			
	Sixth	Seventh	Eighth	Total
Badger	4	9	9	22
Lion	9	2	9	20
Longhorn	4	6	4	14
Tiger	6	9	9	24
Total	23	26	31	80

If one of these students is selected at random, what is the probability of selecting a student whose vote for new mascot was for a lion?

- A. $\frac{1}{9}$
- B. $\frac{1}{5}$
- C. $\frac{1}{4}$
- D. $\frac{2}{3}$

Each rock in a collection of **70** rocks was classified as either igneous, metamorphic, or sedimentary, as shown in the frequency table.

Classification	Frequency
igneous	10
metamorphic	33
sedimentary	27

If one of these rocks is selected at random, what is the probability of selecting a rock that is igneous?

- A. $\frac{10}{27}$
- B. $\frac{10}{33}$
- C. $\frac{10}{60}$
- D. $\frac{10}{70}$

Of the 8 planets in our solar system, 4 are considered rocky. If a student randomly selects 1 of those 8 planets as a topic for a report, what is the probability that the selected planet will be rocky?

A. $\frac{1}{8}$

B. $\frac{1}{4}$

C. $\frac{1}{2}$

D. 2

Texting behavior	Talks on cell phone daily	Does not talk on cell phone daily	Total
Light	110	146	256
Medium	139	164	303
Heavy	166	74	240
Total	415	384	799

In a study of cell phone use, 799 randomly selected US teens were asked how often they talked on a cell phone and about their texting behavior. The data are summarized in the table above. If one of the 799 teens surveyed is selected at random, what is the probability that the teen talks on a cell phone daily?

A. $\frac{1}{799}$

B. $\frac{415}{799}$

C. $\frac{384}{415}$

D. $\frac{384}{799}$

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. $\frac{45}{45}$

A store received a shipment of 1,000 MP3 players, 4 of which were defective. If an MP3 player is randomly selected from this shipment, what is the probability that it is defective?

- A. 0.004
- B. 0.04
- C. 0.4
- D. 4

There are n nonfiction books and 12 fiction books on a bookshelf. If one of these books is selected at random, what is the probability of selecting a nonfiction book, in terms of n ?

A. $\frac{n}{12}$

B. $\frac{n}{n+12}$

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

D. $\frac{12}{n+12}$

For a particular machine that produces beads, **29** out of every **100** beads it produces have a defect. A bead produced by the machine will be selected at random. What is the probability of selecting a bead that has a defect?

A. $\frac{1}{2,900}$

B. $\frac{1}{29}$

C. $\frac{29}{100}$

D. $\frac{29}{10}$

A bag contains a total of 60 marbles. A marble is to be chosen at random from the bag. If the probability that a blue marble will be chosen is 0.35, how many marbles in the bag are blue?

- A. 21
- B. 25
- C. 35
- D. 39

There are **20** buttons in a bag: **8** white buttons, **2** orange buttons, and **10** brown buttons. If one of these buttons is selected at random, what is the probability of selecting a white button?

A. $\frac{2}{20}$

B. $\frac{8}{20}$

C. $\frac{10}{20}$

D. $\frac{12}{20}$