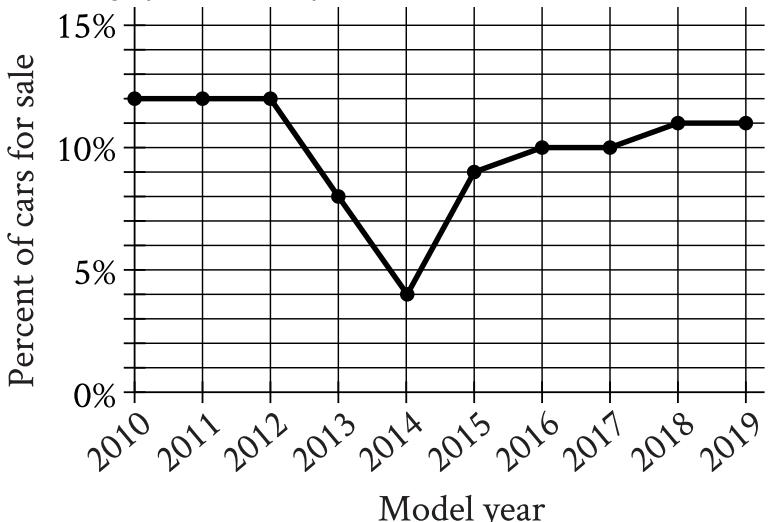


# Question ID 4a2264b3

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: 4a2264b3

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

# Question ID e3d49511

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: e3d49511

The number of raccoons in a **131**-square-mile area is estimated to be **2,358**. What is the estimated population density, in raccoons per square mile, of this area?

- A. **18**
- B. **131**
- C. **149**
- D. **2,376**

# Question ID b680e76d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: b680e76d

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

## Question ID 53d97af5

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Inference from sample statistics and margin of error	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: 53d97af5

A study was done on the weights of different types of fish in a pond. A random sample of fish were caught and marked in order to ensure that none were weighed more than once. The sample contained 150 largemouth bass, of which 30% weighed more than 2 pounds. Which of the following conclusions is best supported by the sample data?

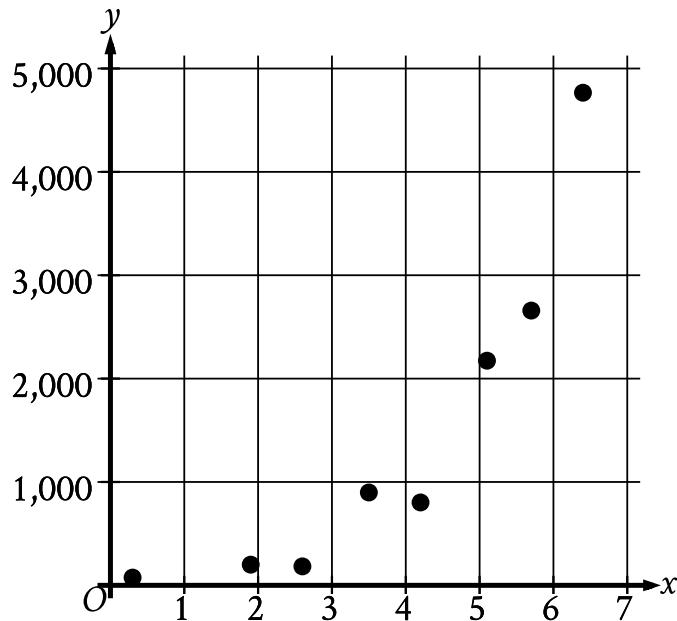
- A. The majority of all fish in the pond weigh less than 2 pounds.
- B. The average weight of all fish in the pond is approximately 2 pounds.
- C. Approximately 30% of all fish in the pond weigh more than 2 pounds.
- D. Approximately 30% of all largemouth bass in the pond weigh more than 2 pounds.

# Question ID 15ce8207

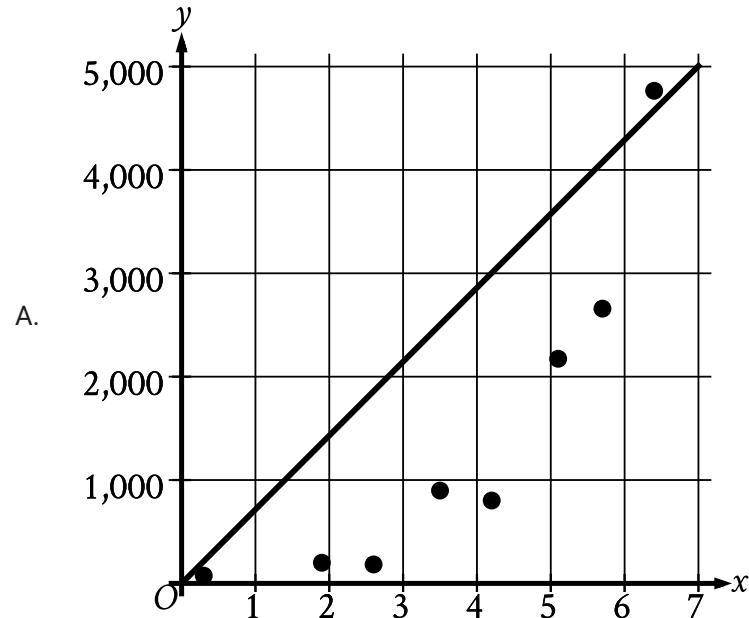
Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: 15ce8207

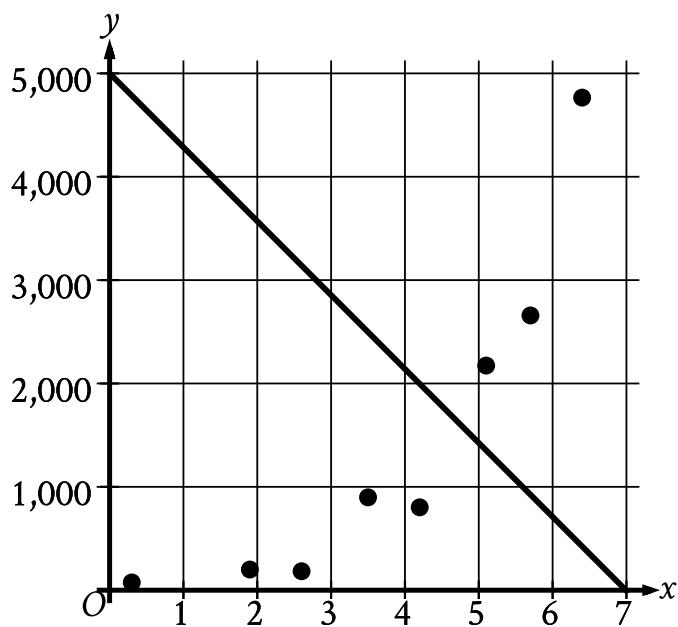
The scatterplot shows the relationship between two variables,  $x$  and  $y$ .



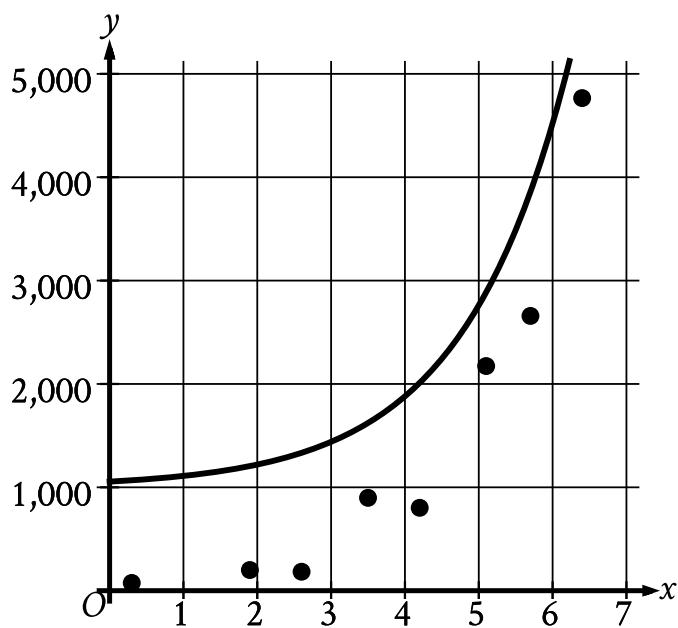
Which of the following graphs shows the most appropriate model for the data?



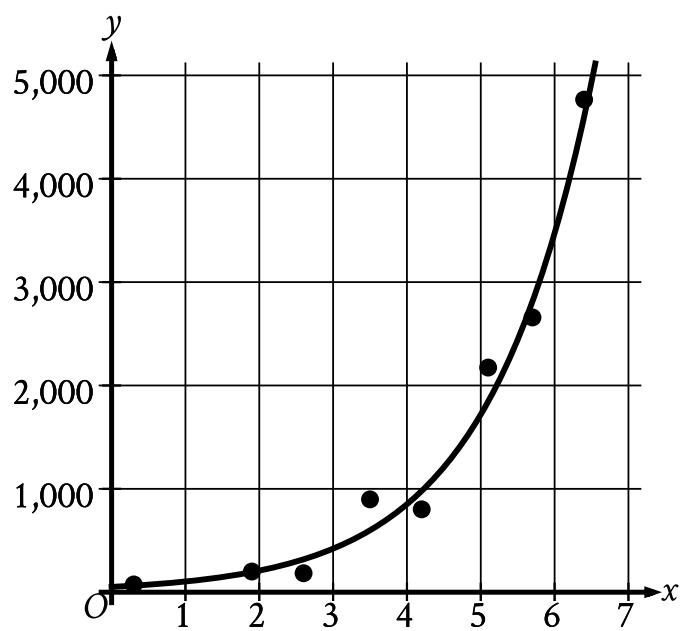
B.



C.



D.



# Question ID d4413871

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: d4413871

	Blood type			
Rhesus factor	A	B	AB	O
+	33	9	3	37
-	7	2	1	x

Human blood can be classified into four common blood types—A, B, AB, and O. It is also characterized by the presence (+) or absence (−) of the rhesus factor. The table above shows the distribution of blood type and rhesus factor for a group of people. If one of these people who is rhesus negative (−) is chosen at random, the probability

that the person has blood type B is  $\frac{1}{9}$ . What is the value of x ?

# Question ID 0301c5dc

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: 0301c5dc

The table below shows the number of state parks in a certain state that contain camping facilities and bicycle paths.

	Has bicycle paths	Does not have bicycle paths
Has camping facilities	20	5
Does not have camping facilities	8	4

If one of these state parks is selected at random, what is the probability that it has camping facilities but does not have bicycle paths?

A.  $\frac{5}{37}$

B.  $\frac{5}{25}$

C.  $\frac{8}{28}$

D.  $\frac{5}{9}$

# Question ID 0ae37ff3

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

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.  $\frac{1}{7}$

## Question ID c88e0663

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: c88e0663

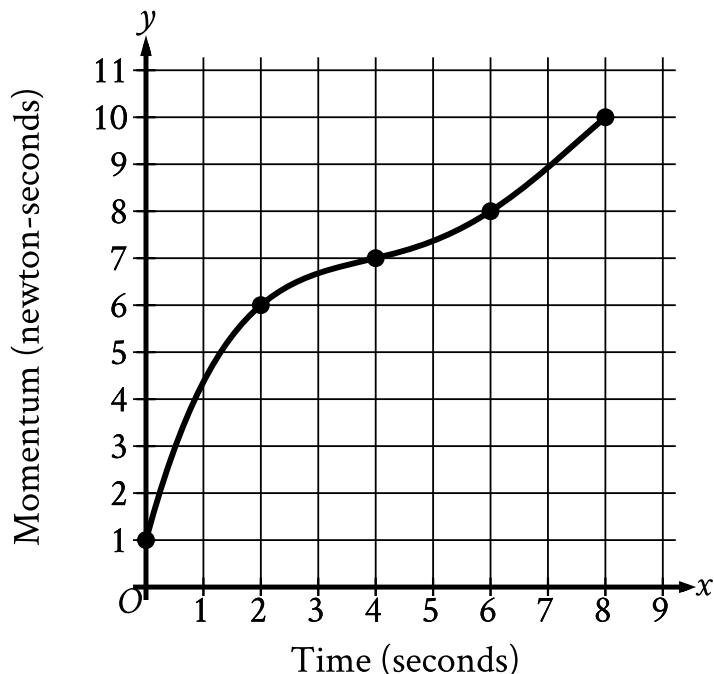
For a school fund-raiser, 10 students sold a total of 90 boxes of cookies. Which of the following can be calculated from this information?

- 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

# Question ID 9bb4107c

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 20%; background-color: #0056b3; height: 10px;"></div> <div style="width: 20%; background-color: #0056b3; height: 10px;"></div> <div style="width: 60%; background-color: #e0e0e0; height: 10px;"></div>

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  $x = 6$ ?

## Question ID 3f2ee20a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #005a7a; height: 10px;"></div> <div style="width: 25%; background-color: #005a7a; height: 10px;"></div> <div style="width: 50%; background-color: #e0e0e0; height: 10px;"></div>

ID: 3f2ee20a

The results of two independent surveys are shown in the table below.

Men's Height

Group	Sample size	Mean (centimeters)	Standard deviation (centimeters)
A	2,500	186	12.5
B	2,500	186	19.1

Which statement is true based on the table?

- A. The Group A data set was identical to the Group B data set.
- B. Group B contained the tallest participant.
- C. The heights of the men in Group B had a larger spread than the heights of the men in Group A.
- D. The median height of Group B is larger than the median height of Group A.

## Question ID 993000da

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: 993000da

The positive number  $a$  is 230% of the number  $b$ , and  $a$  is 60% of the number  $c$ . If  $c$  is  $p\%$  of  $b$ , which of the following is closest to the value of  $p$ ?

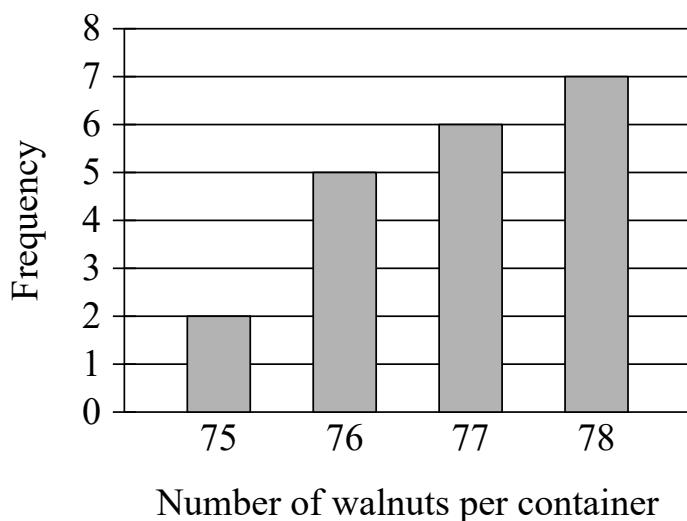
- A. 138
- B. 217
- C. 283
- D. 383

# Question ID fe6a49d6

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: fe6a49d6

The bar graph shows the distribution of the number of walnuts per container for 20 containers at a grocery store.



How many of these containers of walnuts contain exactly **78** walnuts?

- A. 2
- B. 7
- C. 20
- D. 78

# Question ID d0efc1dd

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 60%; background-color: #0056b3; height: 10px;"></div> <div style="width: 60%; background-color: #0056b3; height: 10px;"></div> <div style="width: 40%; background-color: #e0e0e0; height: 10px;"></div>

ID: d0efc1dd

15, 14, 18, 17, x

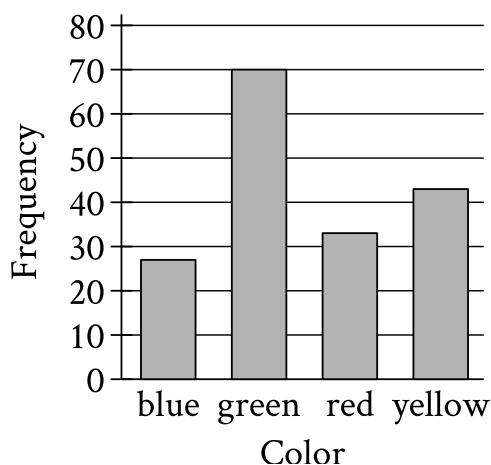
The mean and the median of the five numbers above are equal. Which of the following is NOT a possible value of x ?

- A. 6
- B. 11
- C. 16
- D. 21

# Question ID 80f1f3a9

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: 80f1f3a9



A data set consists of **173** colors. The bar graph shows the number of times each color appears in the data set. Which color appears **70** times?

- A. Blue
- B. Green
- C. Red
- D. Yellow

# Question ID e9fb7774

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: e9fb7774

What percentage of 300 is 75?

- A. 25%
- B. 50%
- C. 75%
- D. 225%

## Question ID 190be2fc

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 60%; background-color: #0056b3; height: 10px;"></div>

ID: 190be2fc

Data set A consists of **10** positive integers less than **60**. The list shown gives **9** of the integers from data set A.

**43, 45, 44, 43, 38, 39, 40, 46, 40**

The mean of these **9** integers is **42**. If the mean of data set A is an integer that is greater than **42**, what is the value of the largest integer from data set A?

# Question ID 3f236a64

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: 3f236a64

$x$	$y$
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

# Question ID 8705ecba

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 8705ecba

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?

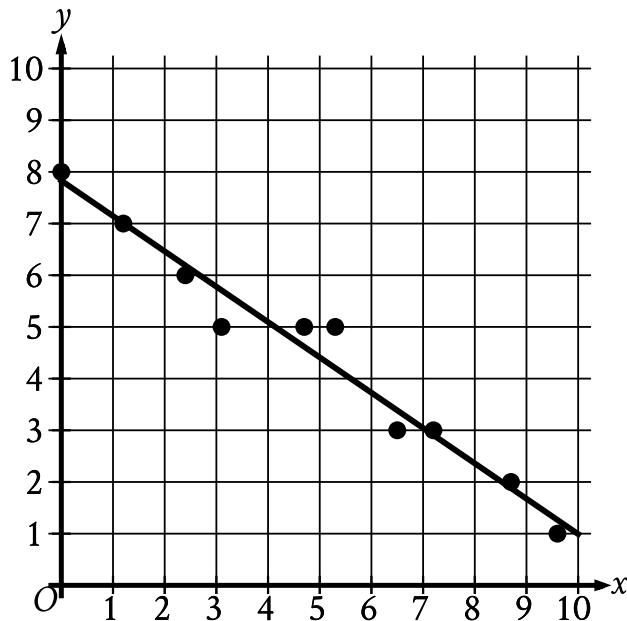
- A. \$20.05
- B. \$20.50
- C. \$21.00
- D. \$25.00

# Question ID 2e74e403

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: 2e74e403

In the given scatterplot, a line of best fit for the data is shown.



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

- A. 7
- B. 0.7
- C. -0.7
- D. -7

# Question ID f8f79e11

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Inference from sample statistics and margin of error	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: f8f79e11

A park ranger asked a random sample of visitors how far they hiked during their visit.

Based on the responses, the estimated mean was found to be 4.5 miles, with an associated margin of error of 0.5 miles. Which of the following is the best conclusion from these data?

- A. It is likely that all visitors hiked between 4 and 5 miles.
- B. It is likely that most visitors hiked exactly 4.5 miles.
- C. It is not possible that any visitor hiked less than 3 miles.
- D. It is plausible that the mean distance hiked for all visitors is between 4 and 5 miles.

## Question ID da9ffcf6

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: da9ffcf6

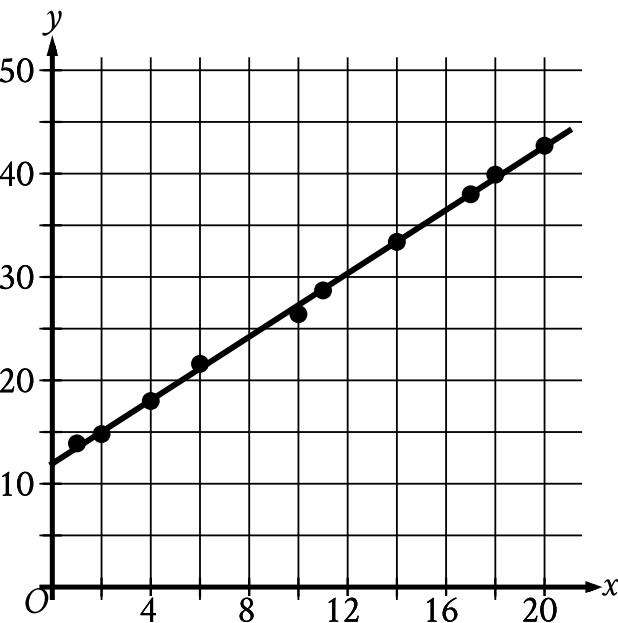
The ratio of the length of line segment  $XY$  to the length of line segment  $ZV$  is **6** to **1**. If the length of line segment  $XY$  is **102** inches, what is the length, in inches, of line segment  $ZV$ ?

- A. **17**
- B. **96**
- C. **102**
- D. **612**

# Question ID 2e8027b0

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 100px; height: 10px; background-color: #0056b3;"></div>

ID: 2e8027b0



The scatterplot shows the relationship between two variables,  $x$  and  $y$ , for data set E. A line of best fit is shown. Data set F is created by multiplying the  $y$ -coordinate of each data point from data set E by 3.9. Which of the following could be an equation of a line of best fit for data set F?

- A.  $y = 46.8 + 5.9x$
- B.  $y = 46.8 + 1.5x$
- C.  $y = 12 + 5.9x$
- D.  $y = 12 + 1.5x$

# Question ID c178d4da

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 75%;"></div>

ID: c178d4da

Value	Data set A frequency	Data set B frequency
30	2	9
34	4	7
38	5	5
42	7	4
46	9	2

Data set A and data set B each consist of **27** values. The table shows the frequencies of the values for each data set. Which of the following statements best compares the means of the two data sets?

- A. The mean of data set A is greater than the mean of data set B.
- B. The mean of data set A is less than the mean of data set B.
- C. The mean of data set A is equal to the mean of data set B.
- D. There is not enough information to compare the means of the data sets.

## Question ID 2c76bcce

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Inference from sample statistics and margin of error	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: 2c76bcce

A company designs and makes handbags. To estimate the mean weight of the handbags made by the company on a particular day, a sample of the handbags made by the company on that day was selected at random. Based on the sample, it is estimated that the mean weight of all handbags made by the company on that day is **27.8 ounces (oz)**, with an associated margin of error of **0.02 oz**. Based on this estimate and associated margin of error, which of the following is the most plausible conclusion?

- A. The mean weight of all handbags made by the company on that day is between **27.78 oz** and **27.82 oz**.
- B. The actual weights of all handbags made by the company on that day are between **27.78 oz** and **27.82 oz**.
- C. The actual weights of all handbags from the sample are between **27.78 oz** and **27.82 oz**.
- D. The mean weight of all handbags made by the company on that day is **27.8 oz**.

# Question ID 9fa781f8

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 50%; background-color: #e0e0e0; height: 10px;"></div>

ID: 9fa781f8

The ratio  $x$  to  $y$  is equivalent to the ratio 9 to 5. If the value of  $x$  is 162, what is the value of  $y$ ?

# Question ID 9a144a01

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 20%; background-color: #003366; height: 10px;"></div> <div style="width: 20%; background-color: #003366; height: 10px;"></div> <div style="width: 60%; background-color: #cccccc; height: 10px;"></div>

ID: 9a144a01

Which of the following is true about the values of  $2^x$  and

$2x + 2$  for  $x > 0$ ?

- A. For all  $x > 0$ , it is true that  $2^x < 2x + 2$ .
- B. For all  $x > 0$ , it is true that  $2^x > 2x + 2$ .
- C. There is a constant  $c$  such that if  $0 < x < c$ , then  $2^x < 2x + 2$ , but if  $x > c$ , then  $2^x > 2x + 2$ .
- D. There is a constant  $c$  such that if  $0 < x < c$ , then  $2^x > 2x + 2$ , but if  $x > c$ , then  $2^x < 2x + 2$ .

# Question ID 022e9894

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 20%; background-color: #003366; height: 10px;"></div> <div style="width: 20%; background-color: #003366; height: 10px;"></div> <div style="width: 60%; background-color: #cccccc; height: 10px;"></div>

ID: 022e9894

An insurance company offers a series of three information sessions. **1,250** people attended the first information session. **72%** of the people who attended the first information session attended the second information session, and **36%** of the people who attended the first and second information sessions attended the third information session. How many people attended all three information sessions?

## Question ID 457d2f2c

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 75%;"><div style="width: 100px; height: 10px; background-color: #005a99;"></div><div style="width: 100px; height: 10px; background-color: #005a99;"></div><div style="width: 100px; height: 10px; background-color: #005a99;"></div></div>

ID: 457d2f2c

A data set of 27 different numbers has a mean of 33 and a median of 33. A new data set is created by adding 7 to each number in the original data set that is greater than the median and subtracting 7 from each number in the original data set that is less than the median. Which of the following measures does NOT have the same value in both the original and new data sets?

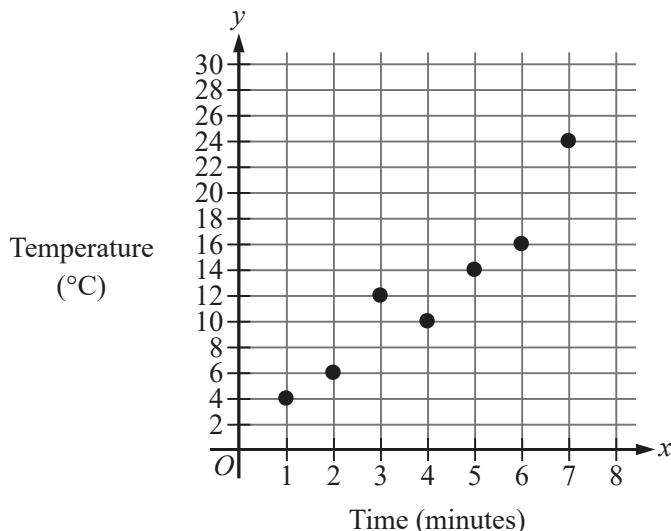
- A. Median
- B. Mean
- C. Sum of the numbers
- D. Standard deviation

# Question ID e24765e6

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 50%; background-color: #e0e0e0; height: 10px;"></div>

ID: e24765e6

During a study, the temperature, in degrees Celsius ( $^{\circ}\text{C}$ ), of the air in a chamber was recorded to the nearest integer at certain times. The scatterplot shows the recorded temperature  $y$ , in  $^{\circ}\text{C}$ , of the air in the chamber  $x$  minutes after the start of the study.



What was the average rate of change, in  $^{\circ}\text{C}$  per minute, of the recorded temperature of the air in the chamber from  $x = 5$  to  $x = 7$ ?

# Question ID 47624288

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #0056b3;"></div> <div style="width: 25%; background-color: #e0e0e0;"></div> <div style="width: 25%; background-color: #e0e0e0;"></div>

ID: 47624288

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
<b>Total</b>	<b>23</b>	<b>26</b>	<b>31</b>	<b>80</b>

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.  $\frac{2}{3}$

## Question ID 6310adbc

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 6310adbc

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

## Question ID e438ec3f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: e438ec3f

A grove has **6** rows of birch trees and **5** rows of maple trees. Each row of birch trees has **8** trees **20** feet or taller and **6** trees shorter than **20** feet. Each row of maple trees has **9** trees **20** feet or taller and **7** trees shorter than **20** feet. A tree from one of these rows will be selected at random. What is the probability of selecting a maple tree, given that the tree is **20** feet or taller?

- A.  $\frac{9}{164}$
- B.  $\frac{3}{10}$
- C.  $\frac{15}{31}$
- D.  $\frac{9}{17}$

# Question ID 63573fea

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3;"></div> <div style="width: 25%; background-color: #0056b3;"></div> <div style="width: 50%; background-color: #e0e0e0;"></div>

ID: 63573fea

During the first month of sales, a company sold 1,300,000 units of a certain type of smartphone. During the same month, 15% of the units sold were returned. If sales and the return rate remain the same for each of the next 5 months, about how many units of this smartphone will be returned to the company during this 6-month period?

- A. 195,000
- B. 975,000
- C. 1,170,000
- D. 6,630,000

## Question ID 191d167b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 191d167b

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?

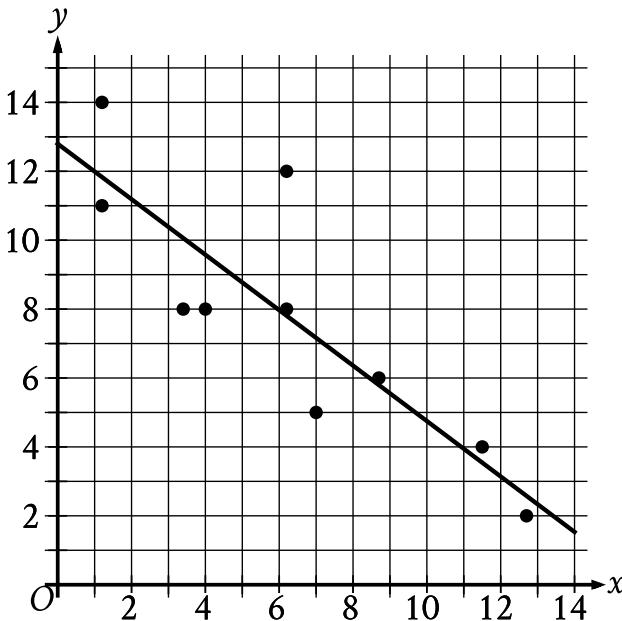
- A. **247**
- B. **294**
- C. **347**
- D. **394**

# Question ID 03a16790

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #005599; height: 10px;"></div> <div style="width: 50%; background-color: #CCCCCC; height: 10px;"></div>

ID: 03a16790

The scatterplot shows the relationship between two variables,  $x$  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.  $-2.4$
- B.  $-0.8$
- C.  $0.8$
- D.  $2.4$

# Question ID 60caadfd

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: 60caadfd

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.  $\frac{10}{70}$

# Question ID c3d65f93

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: c3d65f93

Five *Eretmochelys imbricata*, a type of sea turtle, each have a nest. The table shows an original data set of the number of eggs that each turtle laid in its nest.

Nest	Number of eggs
A	149
B	144
C	148
D	136
E	139

A sixth nest with 121 eggs is added to create a new data set. Which of the following correctly compares the means of the two data sets?

- A. The mean of the original data set is greater than the mean of the new data set.
- B. The mean of the original data set is less than the mean of the new data set.
- C. The means of both data sets are equal.
- D. There is not enough information to compare the means.

## Question ID b4f5a7ca

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Evaluating statistical claims: Observational studies and experiments	<div style="width: 25%; background-color: #005a99; height: 10px;"></div> <div style="width: 25%; background-color: #005a99; height: 10px;"></div> <div style="width: 50%; background-color: #e0e0e0; height: 10px;"></div>

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

# Question ID 93724cc6

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 93724cc6

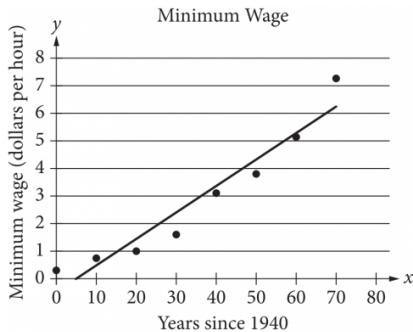
21 is 21% of what number?

- A. 0
- B. 1
- C. 42
- D. 100

# Question ID d6af3572

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 100px; height: 10px; background-color: #0056b3;"></div>

ID: d6af3572



The scatterplot above shows the federal-mandated minimum wage every 10 years between 1940 and 2010. A line of best fit is shown, and its equation is

$y = 0.096x - 0.488$ . What does the line of best fit predict about the increase in the minimum wage over the 70-year period?

- A. Each year between 1940 and 2010, the average increase in minimum wage was 0.096 dollars.
- B. Each year between 1940 and 2010, the average increase in minimum wage was 0.49 dollars.
- C. Every 10 years between 1940 and 2010, the average increase in minimum wage was 0.096 dollars.
- D. Every 10 years between 1940 and 2010, the average increase in minimum wage was 0.488 dollars.

## Question ID 2d16d62c

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #005a9f; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

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**)

# Question ID 69f6717f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: 69f6717f

A sample of oak has a density of **807** kilograms per cubic meter. The sample is in the shape of a cube, where each edge has a length of **0.90** meters. To the nearest whole number, what is the mass, in kilograms, of this sample?

- A. **588**
- B. **726**
- C. **897**
- D. **1,107**

# Question ID 35bec412

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: 35bec412

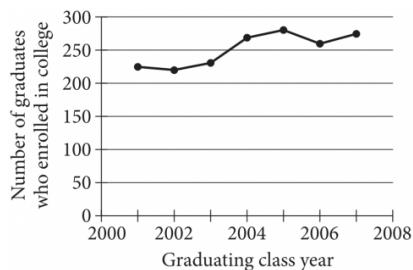
73, 74, 75, 77, 79, 82, 84, 85, 91

What is the median of the data shown?

# Question ID 74dee52b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: 74dee52b



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

# Question ID c3d78831

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 50%; background-color: #e0e0e0; height: 10px;"></div>

ID: c3d78831

At a particular track meet, the ratio of coaches to athletes is **1** to **26**. If there are  $x$  coaches at the track meet, which of the following expressions represents the number of athletes at the track meet?

- A.  $\frac{x}{26}$
- B.  $26x$
- C.  $x + 26$
- D.  $\frac{26}{x}$

# Question ID fea831fc

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: fea831fc

On April 18, 1775, Paul Revere set off on his midnight ride from Charlestown to Lexington. If he had ridden straight to Lexington without stopping, he would have traveled 11 miles in 26 minutes. In such a ride, what would the average speed of his horse have been, to the nearest tenth of a mile per hour?

# Question ID aeeaec96

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: aeeaec96

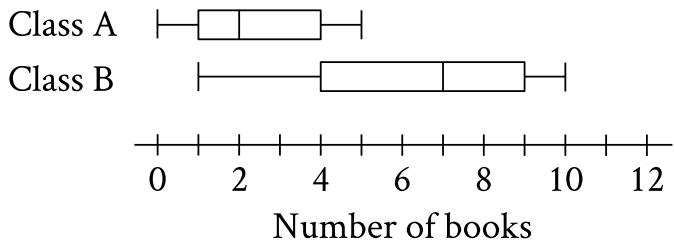
How many yards are equivalent to 612 inches? (1 yard = 36 inches)

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

## Question ID 6c9444cd

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 75%; height: 10px; background-color: #005a9f;"></div>

ID: 6c9444cd

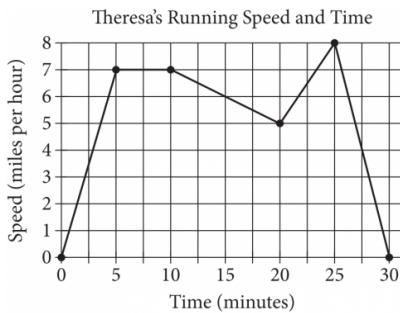


The two box plots show the distribution of number of books read over the summer by the students in two different English classes. What is the positive difference between the ranges of number of books read over the summer for the two classes?

# Question ID 9d88a3e3

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 9d88a3e3



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.

# Question ID e03f3477

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Inference from sample statistics and margin of error	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: e03f3477

A sample consisting of **720** adults who own televisions was selected at random for a study. Based on the sample, it is estimated that **32%** of all adults who own televisions use their televisions to watch nature shows, with an associated margin of error of **3.41%**. Which of the following is the most plausible conclusion about all adults who own televisions?

- A. More than **35.41%** of all adults who own televisions use their televisions to watch nature shows.
- B. Between **28.59%** and **35.41%** of all adults who own televisions use their televisions to watch nature shows.
- C. Since the sample included adults who own televisions and not just those who use their televisions to watch nature shows, no conclusion can be made.
- D. Since the sample did not include all the people who watch nature shows, no conclusion can be made.

# Question ID d693f563

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 20%; background-color: #0056b3; height: 10px;"></div> <div style="width: 20%; background-color: #0056b3; height: 10px;"></div> <div style="width: 60%; background-color: #e0e0e0; height: 10px;"></div>

ID: d693f563

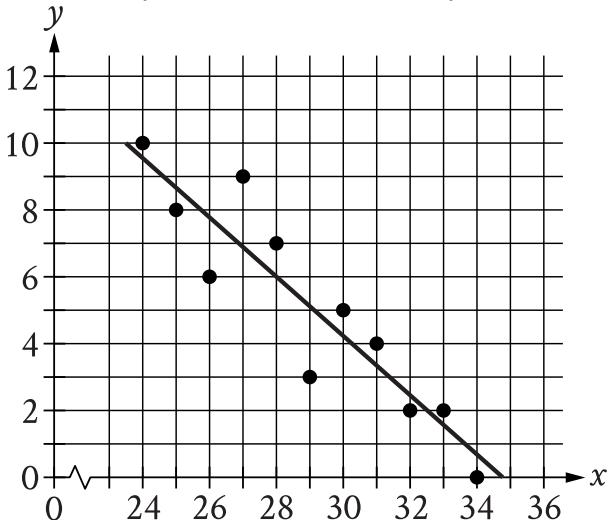
Last year, Cedric had **35** plants in his garden. This year, the number of plants in Cedric's garden is **60%** greater than the number of plants in his garden last year. How many plants does Cedric have in his garden this year?

# Question ID f46139df

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: f46139df

The scatterplot shows the relationship between two variables,  $x$  and  $y$ . A line of best fit for the data is also shown.



At  $x = 25.5$ , which of the following is closest to the  $y$ -value predicted by the line of best fit?

- A. 6.2
- B. 7.3
- C. 8.2
- D. 9.1

# Question ID 07f2829b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #005599; height: 10px;"></div> <div style="width: 50%; background-color: #CCCCCC; height: 10px;"></div>

ID: 07f2829b

International Tourist

Arrivals, in millions

Country	2012	2013
France	83.0	84.7
United States	66.7	69.8
Spain	57.5	60.7
China	57.7	55.7
Italy	46.4	47.7
Turkey	35.7	37.8
Germany	30.4	31.5
United Kingdom	26.3	32.2
Russia	24.7	28.4

The table above shows the number of international tourist arrivals, rounded to the nearest tenth of a million, to the top nine tourist destinations in both 2012 and 2013. Based on the information given in the table, how much greater, in millions, was the median number of international tourist arrivals to the top nine tourist destinations in 2013 than the median number in 2012, to the nearest tenth of a million?

# Question ID e5b5fbdd

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: e5b5fbdd

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

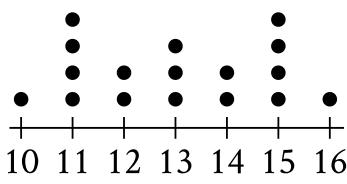
# Question ID d65b9a87

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

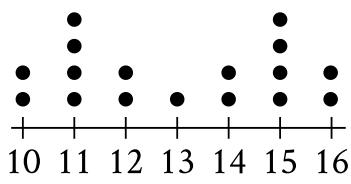
ID: d65b9a87

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

Data Set A



Data Set 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

# Question ID 7ac5d686

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: 7ac5d686

An inspector begins a day of work with a large sample of shirts that need to be checked for defects. The inspector works at a constant rate throughout the morning. What type of model is best to model the number of shirts remaining to be checked for defects at any given time throughout the morning?

- A. A linear model with a positive slope
- B. A linear model with a negative slope
- C. An exponential growth model
- D. An exponential decay model

# Question ID 1fc4f47b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: 1fc4f47b

At a movie theater, there are a total of **350** customers. Each customer is located in either theater A, theater B, or theater C. If one of these customers is selected at random, the probability of selecting a customer who is located in theater A is **0.48**, and the probability of selecting a customer who is located in theater B is **0.24**. How many customers are located in theater C?

- A. **28**
- B. **40**
- C. **84**
- D. **98**

## Question ID e7133228

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: e7133228

The speed of a vehicle is increasing at a rate of **7.3** meters per second squared. What is this rate, in **miles per minute squared**, rounded to the nearest tenth? (Use **1 mile = 1,609 meters**.)

- A. **0.3**
- B. **16.3**
- C. **195.8**
- D. **220.4**

# Question ID 2905ded0

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 2905ded0

	Live east of the river	Live west of the river	Total
Less than 40 years old	17	11	28
At least 40 years old	18	89	107
Total	35	100	135

The table summarizes members of a local organization by age and whether they live east or west of the river. If a member of the organization is selected at random, what is the probability that the selected member is at least **40** years old?

- A.  $\frac{28}{135}$
- B.  $\frac{35}{135}$
- C.  $\frac{100}{135}$
- D.  $\frac{107}{135}$

# Question ID bb7c8186

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: bb7c8186

What is 23% of 100?

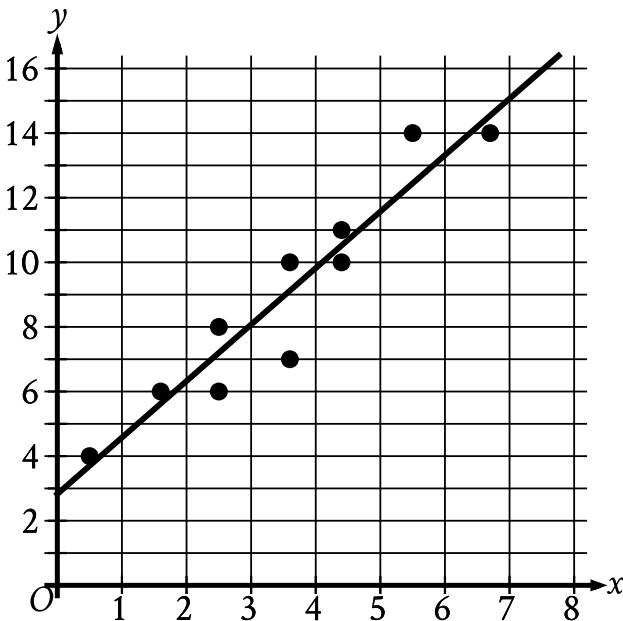
- A. 23
- B. 46
- C. 77
- D. 123

# Question ID d230e963

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: d230e963

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



Which of the following equations best represents the line of best fit shown?

- A.  $y = 2.8 + 1.7x$
- B.  $y = 2.8 - 1.7x$
- C.  $y = -2.8 + 1.7x$
- D.  $y = -2.8 - 1.7x$

## Question ID 181cc4d6

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 50%; background-color: #e0e0e0; height: 10px;"></div>

ID: 181cc4d6

Rectangle A has length 15 and width  $w$ . Rectangle B has length 20 and the same length-to-width ratio as rectangle A. What is the width of rectangle B in terms of  $w$ ?

A.  $\frac{4}{3}w$

B.  $w + 5$

C.  $\frac{3}{4}w$

D.  $w - 5$

# Question ID 241f1db7

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 75%; background-color: #005a99; height: 10px;"></div>

ID: 241f1db7

Weight (pounds)	Frequency
13	12
14	8
15	5
16	7
17	9
18	10
19	13
20	7

The frequency table summarizes a data set of the weights, rounded to the nearest pound, of 71 tortoises. A weight of 39 pounds is added to the original data set, creating a new data set of the weights, rounded to the nearest pound, of 72 tortoises. Which statement best compares the mean and median of the new data set to the mean and median of the original data set?

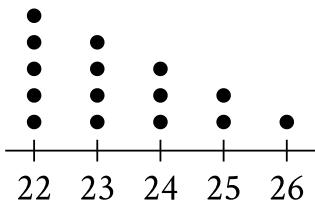
- A. The mean of the new data set is greater than the mean of the original data set, and the median of the new data set is greater than the median of the original data set.
- B. The mean of the new data set is greater than the mean of the original data set, and the medians of the two data sets are equal.
- C. The mean of the new data set is less than the mean of the original data set, and the median of the new data set is less than the median of the original data set.
- D. The mean of the new data set is less than the mean of the original data set, and the medians of the two data sets are equal.

# Question ID 578e26ae

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 50%; background-color: #e0e0e0; height: 10px;"></div>

ID: 578e26ae

Data Set A



Data set A has 15 values and is represented by the dot plot shown. Data set B is created by adding 46 to each of the values in data set A. Which of the following correctly compares the medians and the ranges of data sets A and B?

- A. The median of data set B is greater than the median of data set A, and the range of data set B is equal to the range of data set A.
- B. The median of data set B is greater than the median of data set A, and the range of data set B is greater than the range of data set A.
- C. The median of data set B is equal to the median of data set A, and the range of data set B is greater than the range of data set A.
- D. The median of data set B is equal to the median of data set A, and the range of data set B is equal to the range of data set A.

# Question ID e9841407

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: e9841407

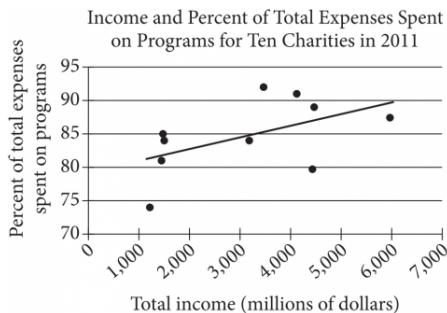
Shaquan has 7 red cards and 28 blue cards. What is the ratio of red cards to blue cards that Shaquan has?

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

# Question ID 7fd284ac

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #005599; height: 10px;"></div> <div style="width: 50%; background-color: #CCCCCC; height: 10px;"></div>

ID: 7fd284ac



The scatterplot above shows data for ten charities along with the line of best fit. For the charity with the greatest percent of total expenses spent on programs, which of the following is closest to the difference of the actual percent and the percent predicted by the line of best fit?

- A. 10%
- B. 7%
- C. 4%
- D. 1%

## Question ID 1fb3b67

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: 1fb3b67

The number  $a$  is 190% greater than the number  $b$ . The number  $b$  is 80% less than 24. What is the value of  $a$ ?

- A. 9.12
- B. 13.92
- C. 26.40
- D. 36.48

# Question ID 1b403590

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: 1b403590

An object has a mass of **168** grams and a volume of **24** cubic centimeters. What is the density, in grams per cubic centimeter, of the object?

- A. **7**
- B. **144**
- C. **192**
- D. **4,032**

# Question ID c81499e1

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: c81499e1

A giant armadillo has a mass of **39** kilograms. What is the giant armadillo's mass in **grams**? (**1 kilogram = 1,000 grams**)

## Question ID a2162ea1

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Inference from sample statistics and margin of error	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: a2162ea1

A company fills boxes with approximately **23** pounds of oranges. To test the accuracy of the filling process, **344** boxes of oranges were selected at random and weighed. Based on the sample, it is estimated that the average weight of all boxes of oranges filled by the company in an **8**-hour period is **23.1** pounds, with an associated margin of error of **0.19** pounds. Which of the following is the best interpretation of this estimate?

- A. Plausible values for the average weight of all boxes of oranges filled by the company are between **22.91** pounds and **23.29** pounds.
- B. Plausible values for the average weight of all boxes of oranges filled by the company are less than **22.91** pounds or greater than **23.29** pounds.
- C. The average weight of all boxes of oranges filled by the company is less than **23.01** pounds.
- D. The average weight of all boxes of oranges filled by the company is greater than **23.01** pounds.

# Question ID ecbdbe84

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 60%;"><div style="width: 100%;"></div></div>

ID: ecbdbe84

The table shown summarizes the number of employees at each of the **17** restaurants in a town.

Number of employees	Number of restaurants
2 to 7	2
8 to 13	4
14 to 19	2
20 to 25	7
26 to 31	2

Which of the following could be the median number of employees for the restaurants in this town?

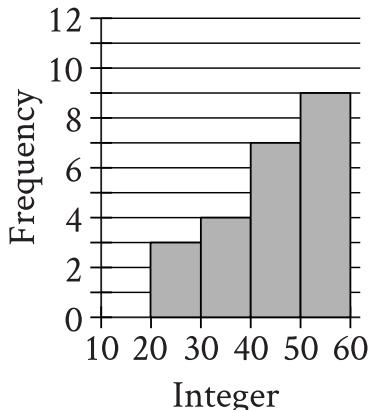
- A. 2
- B. 9
- C. 15
- D. 21

# Question ID f8a322d9

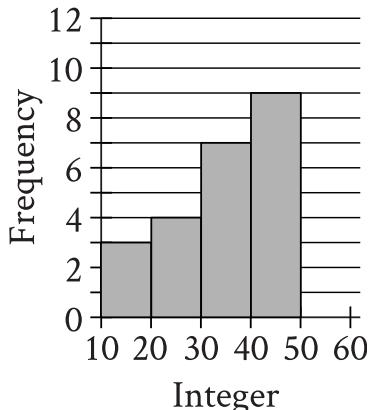
Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 100px; height: 10px; background-color: #0056b3;"></div>

ID: f8a322d9

Data Set A



Data Set B



Two data sets of **23** integers each are summarized in the histograms shown. For each of the histograms, the first interval represents the frequency of integers greater than or equal to **10**, but less than **20**. The second interval represents the frequency of integers greater than or equal to **20**, but less than **30**, and so on. What is the smallest possible difference between the mean of data set A and the mean of data set B?

- A. 0
- B. 1
- C. 10
- D. 23

# Question ID e7d9649f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Inference from sample statistics and margin of error	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

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

# Question ID 2df8f293

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: 2df8f293

Each vertex of a **14**-sided polygon is labeled with one of the **14** letters **A** through **N**, with a different letter at each vertex. If one vertex is selected at random, what is the probability that the letter **D** will be at the selected vertex? (Express your answer as a decimal or fraction, not as a percent.)

## Question ID 7cab9fe1

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 50%; background-color: #e0e0e0; height: 10px;"></div>

ID: 7cab9fe1

Which expression represents the result of increasing a positive quantity  $w$  by 43%?

- A.  $1.43w$
- B.  $0.57w$
- C.  $43w$
- D.  $0.43w$

# Question ID ec7b0eb8

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: ec7b0eb8

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
<b>Total</b>	<b>415</b>	<b>384</b>	<b>799</b>

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.  $\frac{384}{799}$

## Question ID 0700a2d5

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: 0700a2d5

How many yards are equivalent to 77 rods? ( $5.5 \text{ yards} = 1 \text{ rod}$ )

## Question ID 3638f413

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: 3638f413

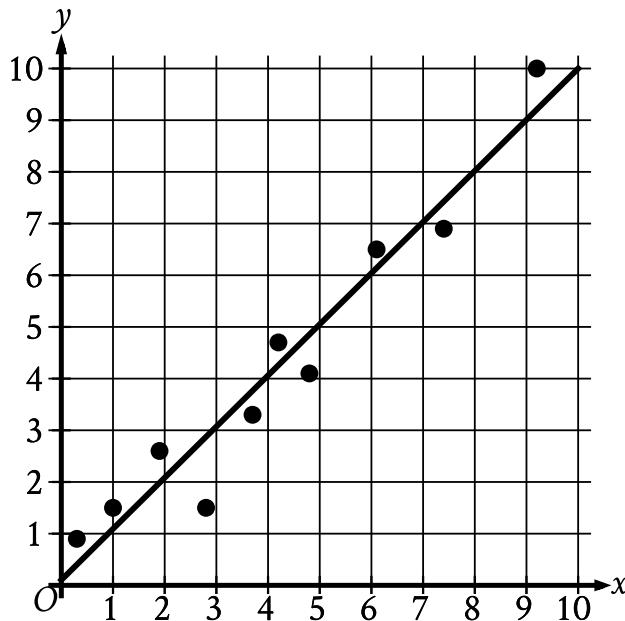
Jeremy deposited  $x$  dollars in his investment account on January 1, 2001. The amount of money in the account doubled each year until Jeremy had 480 dollars in his investment account on January 1, 2005. What is the value of  $x$ ?

# Question ID e17babed

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 20%; background-color: #003366; height: 10px;"></div> <div style="width: 20%; background-color: #003366; height: 10px;"></div> <div style="width: 60%; background-color: #cccccc; height: 10px;"></div>

ID: e17babed

The scatterplot shows the relationship between two variables,  $x$  and  $y$ . A line of best fit for the data is also shown.



For how many of the 10 data points is the actual  $y$ -value greater than the  $y$ -value predicted by the line of best fit?

- A. 3
- B. 4
- C. 6
- D. 7

## Question ID 12dae628

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 12dae628

**2, 9, 14, 23, 32**

What is the mean of the data shown?

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

# Question ID 1142af44

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 60%;"><div style="width: 100%;"></div></div>

ID: 1142af44

Value	Frequency
1	$a$
2	$2a$
3	$3a$
4	$2a$
5	$a$

The frequency distribution above summarizes a set of data, where  $a$  is a positive integer. How much greater is the mean of the set of data than the median?

- A. 0
- B. 1
- C. 2
- D. 3

# Question ID 79201024

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

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.  $\frac{45}{45}$

# Question ID 445dd032

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 50%; background-color: #e0e0e0; height: 10px;"></div>

ID: 445dd032

Tanya earns \$13.50 per hour at her part-time job. When she works  $z$  hours, she earns  $13.50z$  dollars. Which of the following expressions gives the amount, in dollars, Tanya will earn if she works  $3z$  hours?

- A.  $3(13.50z)$
- B.  $3 + 13.50z$
- C.  $3z + 13.50z$
- D.  $13.50(z + 3)$

## Question ID 121dc44f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 20%; background-color: #0056b3; height: 10px;"></div> <div style="width: 20%; background-color: #0056b3; height: 10px;"></div> <div style="width: 60%; background-color: #e0e0e0; height: 10px;"></div>

ID: 121dc44f

The population of City A increased by 7% from 2015 to 2016. If the 2016 population is  $k$  times the 2015 population, what is the value of  $k$ ?

- A. 0.07
- B. 0.7
- C. 1.07
- D. 1.7

## Question ID 1e8ccffd

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 60%; background-color: #0056b3; height: 10px;"></div> <div style="width: 65%; background-color: #0056b3; height: 10px;"></div> <div style="width: 70%; background-color: #0056b3; height: 10px;"></div>

ID: 1e8ccffd

The mean score of 8 players in a basketball game was 14.5 points. If the highest individual score is removed, the mean score of the remaining 7 players becomes 12 points. What was the highest score?

- A. 20
- B. 24
- C. 32
- D. 36

## Question ID a29e89fc

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #005599; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: a29e89fc

The list gives the mass, in grams, of **5** alpine marmots.

**4,010; 4,010; 3,030; 4,050; 3,050**

What is the mean mass, in grams, of these **5** alpine marmots?

## Question ID 9bedc4a0

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Inference from sample statistics and margin of error	<div style="width: 20%; background-color: #003366; height: 10px;"></div> <div style="width: 20%; background-color: #003366; height: 10px;"></div> <div style="width: 60%; background-color: #cccccc; height: 10px;"></div>

ID: 9bedc4a0

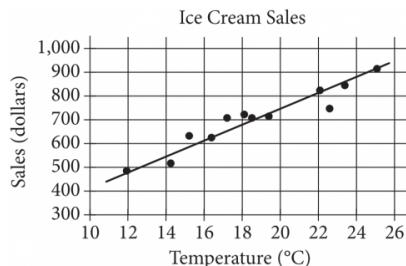
A company that produces socks wants to estimate the percent of the socks produced in a typical week that are defective. A random sample of **310** socks produced in a certain week were inspected. Based on the sample, it is estimated that **12%** of all socks produced by the company in this week are defective, with an associated margin of error of **3.62%**. Based on the estimate and associated margin of error, which of the following is the most appropriate conclusion about all socks produced by the company during this week?

- A. **3.62%** of the socks are defective.
- B. It is plausible that between **8.38%** and **15.62%** of the socks are defective.
- C. **12%** of the socks are defective.
- D. It is plausible that more than **15.62%** of the socks are defective.

# Question ID 1e1027a7

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 100px; height: 10px; background-color: #0056b3;"></div>

ID: 1e1027a7



The scatterplot above shows a company's ice cream sales  $d$ , in dollars, and the high temperature  $t$ , in degrees Celsius ( $^{\circ}\text{C}$ ), on 12 different days. A line of best fit for the data is also shown. Which of the following could be an equation of the line of best fit?

- A.  $d = 0.03t + 402$
- B.  $d = 10t + 402$
- C.  $d = 33t + 300$
- D.  $d = 33t + 84$

# Question ID fe1ec415

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: fe1ec415

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**

## Question ID ba62b0b0

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: ba62b0b0

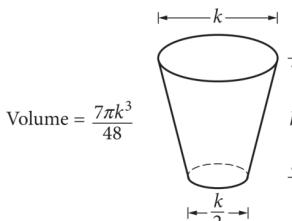
A kangaroo has a mass of **28** kilograms. What is the kangaroo's mass, in grams? (**1 kilogram = 1,000 grams**)

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

# Question ID 939c46d1

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 20%; background-color: #003366; height: 10px;"></div> <div style="width: 30%; background-color: #005599; height: 10px;"></div> <div style="width: 50%; background-color: #CCCCCC; height: 10px;"></div>

ID: 939c46d1



The glass pictured above can hold a maximum volume of 473 cubic centimeters, which is approximately 16 fluid ounces. Jenny has a pitcher that contains 1 gallon of water. How many times could Jenny completely fill the glass with 1 gallon of water?

(1 gallon = 128 fluid ounces)

- A. 16
- B. 8
- C. 4
- D. 3

# Question ID 29c177e6

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 29c177e6

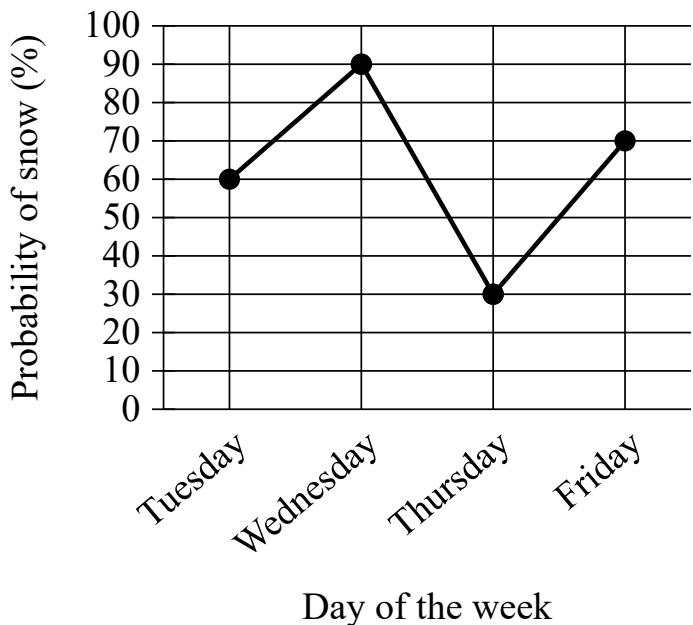
What is 10% of 470?

- A. 37
- B. 47
- C. 423
- D. 460

# Question ID 13f67ddc

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #002060; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 13f67ddc



The line graph shows the probability of snow, as a percent, at a certain location for each day during a four-day period. According to the line graph, for which day during this four-day period is the probability of snow **30%**?

- A. Tuesday
- B. Wednesday
- C. Thursday
- D. Friday

# Question ID ea95087d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: ea95087d

Type of store	Average number of employees
Warehouse store	365
Department store	213
Supermarket	130

For a certain region, the table shows the average number of store employees in **2016** by type of store. Based on the table, how much greater was the average number of store employees in warehouse stores than in supermarkets?

- A. 83
- B. 152
- C. 235
- D. 495

# Question ID fc46af57

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Inference from sample statistics and margin of error	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: fc46af57

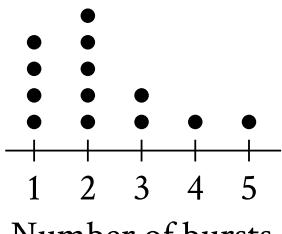
A bag containing 10,000 beads of assorted colors is purchased from a craft store. To estimate the percent of red beads in the bag, a sample of beads is selected at random. The percent of red beads in the bag was estimated to be 15%, with an associated margin of error of 2%. If  $r$  is the actual number of red beads in the bag, which of the following is most plausible?

- A.  $r > 1,700$
- B.  $1,300 < r < 1,700$
- C.  $200 < r < 1,500$
- D.  $r < 1,300$

# Question ID e7d48c8a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: e7d48c8a



Number of bursts

The dot plot represents a data set of the number of bursts for **13** eruptions of a steam vent. If an additional eruption with **11** bursts is added to this data set to create a new data set of **14** eruptions, which of the following measures will be greater for the new data set than for the original data set?

- I. The median number of bursts
  - II. The mean number of bursts
- A. I and II
- B. I only
- C. II only
- D. Neither I nor II

## Question ID 7b65bb28

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #005599; height: 10px;"></div> <div style="width: 50%; background-color: #CCCCCC; height: 10px;"></div>

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

# Question ID 8a714fa1

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 50%; background-color: #e0e0e0; height: 10px;"></div>

ID: 8a714fa1

Which of the following represents the result of increasing the quantity  $x$  by 9%, where  $x > 0$ ?

- A.  $1.09x$
- B.  $0.09x$
- C.  $x + 9$
- D.  $x + 0.09$

## Question ID 7cd1c6db

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: 7cd1c6db

An object travels at a constant speed of **12** centimeters per second. At this speed, what is the time, in seconds, that it would take for the object to travel **108** centimeters?

- A. **9**
- B. **96**
- C. **120**
- D. **972**

# Question ID 8784bc84

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 8784bc84

What is 20% of 440?

- A. 44
- B. 88
- C. 880
- D. 1,760

# Question ID 8637294f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: 8637294f

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

## Question ID 8e2e424e

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 20%; background-color: #0056b3; height: 10px;"></div> <div style="width: 20%; background-color: #0056b3; height: 10px;"></div> <div style="width: 60%; background-color: #e0e0e0; height: 10px;"></div>

ID: 8e2e424e

The number  $k$  is 36% greater than 50. If  $k$  is the product of 50 and  $r$ , what is the value of  $r$ ?

- A. 36
- B. 3.6
- C. 1.36
- D. 0.36

## Question ID 24ad9dcb

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: 24ad9dcb

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

# Question ID be00d896

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 50%; background-color: #e0e0e0; height: 10px;"></div>

ID: be00d896

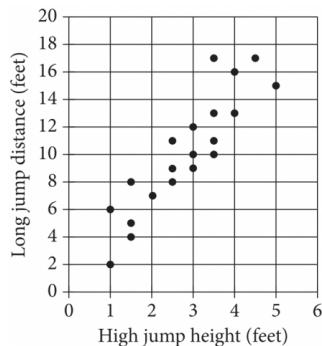
For which of the following data sets is the mean greater than the median?

- A. 5, 5, 5, 5, 5, 5, 5, 5, 5
- B. 0, 10, 20, 30, 40, 50, 60, 70, 80
- C. 2, 4, 8, 16, 32, 64, 128, 256, 512
- D. 7, 107, 107, 207, 207, 207, 307, 307, 307

# Question ID 3d985614

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #0070C0; height: 10px;"></div> <div style="width: 50%; background-color: #D9D9D9; height: 10px;"></div>

ID: 3d985614



Each dot in the scatterplot above represents the height  $x$ , in feet, in the high jump, and the distance  $y$ , in feet, in the long jump, made by each student in a group of twenty students. The graph of which of the following equations is a line that most closely fits the data?

- A.  $y = 0.82x + 3.30$
- B.  $y = 0.82x - 0.82$
- C.  $y = 3.30x + 0.82$
- D.  $y = 3.30x - 3.30$

# Question ID 560fab82

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #005599; height: 10px;"></div> <div style="width: 50%; background-color: #CCCCCC; height: 10px;"></div>

ID: 560fab82

The table shows the frequency of values in a data set.

Value	Frequency
19	7
21	1
23	7
25	4

What is the minimum value of the data set?

# Question ID 308084c5

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Inference from sample statistics and margin of error	<div style="width: 75%; background-color: #005a9f; height: 10px;"></div>

ID: 308084c5

Sample	Percent in favor	Margin of error
A	52%	4.2%
B	48%	1.6%

The results of two random samples of votes for a proposition are shown above. The samples were selected from the same population, and the margins of error were calculated using the same method. Which of the following is the most appropriate reason that the margin of error for sample A is greater than the margin of error for sample B?

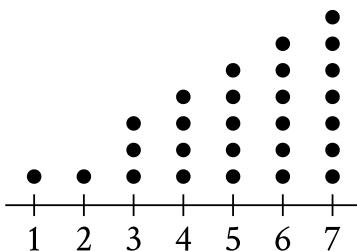
- A. Sample A had a smaller number of votes that could not be recorded.
- B. Sample A had a higher percent of favorable responses.
- C. Sample A had a larger sample size.
- D. Sample A had a smaller sample size.

# Question ID d94018fd

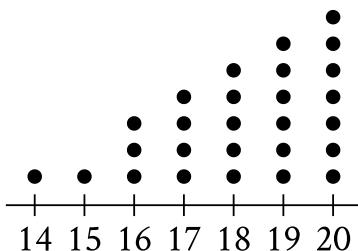
Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #0070C0; height: 10px;"></div> <div style="width: 50%; background-color: #D9D9D9; height: 10px;"></div>

ID: d94018fd

Class A



Class B



Each of the dot plots shown represents the number of glue sticks brought in by each student for two classes, class A and class B.

Which statement best compares the standard deviations of the numbers of glue sticks brought in by each student for these two classes?

- A. The standard deviation of the number of glue sticks brought in by each student for class A is less than the standard deviation of the number of glue sticks brought in by each student for class B.
- B. The standard deviation of the number of glue sticks brought in by each student for class A is equal to the standard deviation of the number of glue sticks brought in by each student for class B.
- C. The standard deviation of the number of glue sticks brought in by each student for class A is greater than the standard deviation of the number of glue sticks brought in by each student for class B.
- D. There is not enough information to compare these standard deviations.

## Question ID e635aede

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: e635aede

In 2008, Zinah earned 14% more than in 2007, and in 2009 Zinah earned 4% more than in 2008. If Zinah earned  $y$  times as much in 2009 as in 2007, what is the value of  $y$ ?

- A. 0.5600
- B. 1.0056
- C. 1.1800
- D. 1.1856

## Question ID e21d10a7

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 50%; background-color: #e0e0e0; height: 10px;"></div>

ID: e21d10a7

One of a planet's moons orbits the planet every **252** days. A second moon orbits the planet every **287** days. How many more days does it take the second moon to orbit the planet **29** times than it takes the first moon to orbit the planet **29** times?

# Question ID 7d721177

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

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

# Question ID d0d9ede4

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: d0d9ede4

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

# Question ID 1d945139

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 50%; background-color: #e0e0e0; height: 10px;"></div>

ID: 1d945139

The total mass, in kilograms, of  $r$  identical objects is  $t$ . Which expression represents the total mass, in kilograms, of  $146r$  of these objects?

- A.  $146 - t$
- B.  $146 + t$
- C.  $\frac{t}{146}$
- D.  $146t$

# Question ID 4b09f783

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

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?

## Question ID 67c0200a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: 67c0200a

The number  $a$  is 70% less than the positive number  $b$ . The number  $c$  is 80% greater than  $a$ . The number  $c$  is how many times  $b$ ?

## Question ID f04d40b2

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Inference from sample statistics and margin of error	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: f04d40b2

From a population of **50,000** people, **1,000** were chosen at random and surveyed about a proposed piece of legislation. Based on the survey, it is estimated that **35%** of people in the population support the legislation, with an associated margin of error of **3%**. Based on these results, which of the following is a plausible value for the total number of people in the population who support the proposed legislation?

- A. 350
- B. 650
- C. 16,750
- D. 31,750

## Question ID bfa8a85c

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: bfa8a85c

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

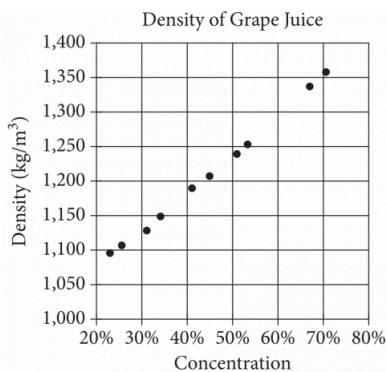
Which of the following lists represents a data set that has the same median as the data set shown?

- 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

# Question ID c9dd92b1

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: c9dd92b1



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 ( $\text{kg}/\text{m}^3$ ), for grape juice with a concentration of 60%?

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

# Question ID 9bf4c545

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Evaluating statistical claims: Observational studies and experiments	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

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.

# Question ID fa7a0164

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: fa7a0164

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

## Question ID 40e7a1a9

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: 40e7a1a9

210 is  $p\%$  greater than 30. What is the value of  $p$ ?

# Question ID 708590d7

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: 708590d7

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.

# Question ID bf47ad54

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

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

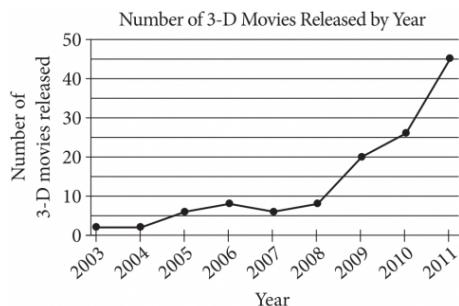
D.

Value	Frequency
70	8
80	5
90	5
100	8

# Question ID a6b2fcce

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #002060; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

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

# Question ID f52123e0

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #005599; height: 10px;"></div> <div style="width: 50%; background-color: #CCCCCC; height: 10px;"></div>

ID: f52123e0

23, 27, 27, 32, 35, 36, 52

What is the range of the 7 scores shown?

## Question ID 06a152cd

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 06a152cd

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

# Question ID 7d68096f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Evaluating statistical claims: Observational studies and experiments	<div style="width: 75%; background-color: #005a99; height: 10px;"></div>

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
<b>3 to 5 hours</b>	<b>6</b>	<b>4</b>	<b>10</b>
<b>More than 5 hours</b>	<b>4</b>	<b>26</b>	<b>30</b>
<b>Total</b>	<b>10</b>	<b>30</b>	<b>40</b>

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

# Question ID 7760c516

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 7760c516

Each value in the data set shown represents the height, in centimeters, of a plant.

**6, 10, 13, 2, 15, 22, 10, 4, 4, 4**

What is the mean height, in centimeters, of these plants?

# Question ID 8917ce38

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

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

## Question ID f4b3672a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Inference from sample statistics and margin of error	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: f4b3672a

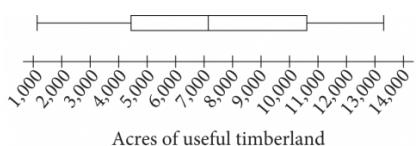
A certain forest is 253 acres. To estimate the number of trees in the forest, a ranger randomly selects 5 different 1-acre parcels in the forest and determines the number of trees in each parcel. The numbers of trees in the sample acres are 51, 59, 45, 52, and 73. Based on the mean of the sample, which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

# Question ID 374b18f9

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 10%; background-color: #D9D9D9; height: 10px;"></div>

ID: 374b18f9



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

## Question ID 585de39a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: 585de39a

On May 10, 2015, there were 83 million Internet subscribers in Nigeria. The major Internet providers were MTN, Globacom, Airtel, Etisalat, and Visafone. By September 30, 2015, the number of Internet subscribers in Nigeria had increased to 97 million. If an Internet subscriber in Nigeria on September 30, 2015, is selected at random, the probability that the person selected was an MTN subscriber is 0.43. There were  $p$  million MTN subscribers in Nigeria on September 30, 2015. To the nearest integer, what is the value of  $p$  ?

# Question ID 4ff597db

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: 4ff597db

The mean amount of time that the 20 employees of a construction company have worked for the company is 6.7 years. After one of the employees leaves the company, the mean amount of time that the remaining employees have worked for the company is reduced to 6.25 years. How many years did the employee who left the company work for the company?

- A. 0.45
- B. 2.30
- C. 9.00
- D. 15.25

# Question ID ec787383

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 50%; background-color: #e0e0e0; height: 10px;"></div>

ID: ec787383

A distance of **61** furlongs is equivalent to how many feet? (**1 furlong = 220 yards and 1 yard = 3 feet**)

# Question ID 7e6c745f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3;"></div> <div style="width: 25%; background-color: #0056b3;"></div> <div style="width: 50%; background-color: #cccccc;"></div>

ID: 7e6c745f

Food	Protein	Cost
1 large egg	6 grams	\$0.36
1 cup of milk	8 grams	\$0.24

The table above shows the amount of protein in two foods and the cost of each food.

Based on the table, what is the ratio of the cost per gram of protein in a large egg to the cost per gram of protein in a cup of milk?

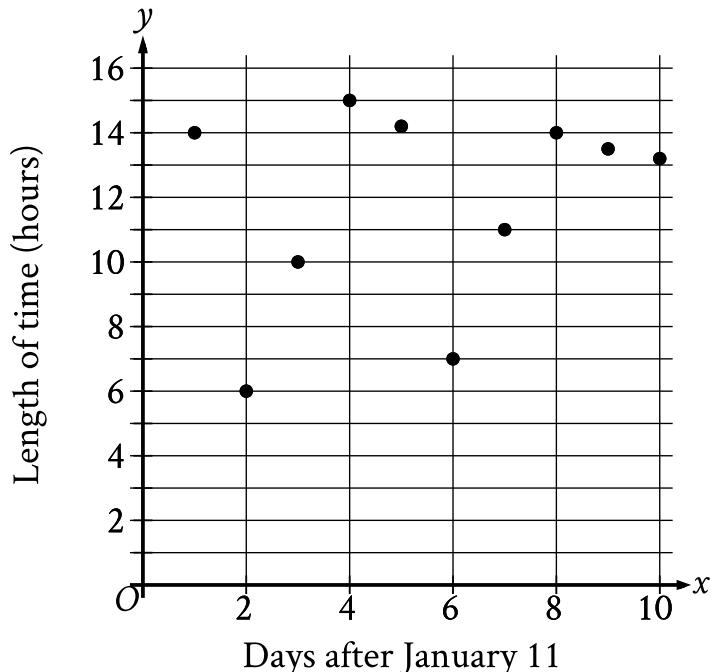
- A. 1 : 2
- B. 2 : 3
- C. 3 : 4
- D. 2 : 1

# Question ID 7b52985c

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 100px; height: 10px; background-color: #0056b3;"></div>

ID: 7b52985c

The scatterplot shows the relationship between the length of time  $y$ , in hours, a certain bird spent in flight and the number of days after January 11,  $x$ .



What is the average rate of change, in hours per day, of the length of time the bird spent in flight on January 13 to the length of time the bird spent in flight on January 15?

## Question ID 7ce2830a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Evaluating statistical claims: Observational studies and experiments	<div style="width: 75%; background-color: #005a9f; height: 10px;"></div>

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

## Question ID 12dbe3de

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: 12dbe3de

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

## Question ID 709e04de

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 20%; background-color: #003366; height: 10px;"></div> <div style="width: 20%; background-color: #003366; height: 10px;"></div> <div style="width: 60%; background-color: #cccccc; height: 10px;"></div>

ID: 709e04de

The value of  $z$  is 1.13 times 100. The value of  $z$  is what percent greater than 100?

- A. 11.3
- B. 13
- C. 130
- D. 213

# Question ID 642519d7

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Evaluating statistical claims: Observational studies and experiments	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #005599; height: 10px;"></div> <div style="width: 50%; background-color: #CCCCCC; height: 10px;"></div>

ID: 642519d7

A polling agency recently surveyed 1,000 adults who were selected at random from a large city and asked each of the adults, "Are you satisfied with the quality of air in the city?" Of those surveyed, 78 percent responded that they were satisfied with the quality of air in the city. Based on the results of the survey, which of the following statements must be true?

1. Of all adults in the city, 78 percent are satisfied with the quality of air in the city.
2. If another 1,000 adults selected at random from the city were surveyed, 78 percent of them would report they are satisfied with the quality of air in the city.
3. If 1,000 adults selected at random from a different city were surveyed, 78 percent of them would report they are satisfied with the quality of air in the city.

- A. None
- B. II only
- C. I and II only
- D. I and III only

# Question ID 0108ac2d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Inference from sample statistics and margin of error	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: 0108ac2d

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.

## Question ID 949cd96b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 949cd96b

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.  $0.89h$

# Question ID 28c6bd8c

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3;"></div> <div style="width: 75%; background-color: #e0e0e0;"></div> <div style="width: 75%; background-color: #e0e0e0;"></div>

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

# Question ID 912cd125

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 20%; background-color: #003366; height: 10px;"></div> <div style="width: 20%; background-color: #003366; height: 10px;"></div> <div style="width: 60%; background-color: #cccccc; height: 10px;"></div>

ID: 912cd125

For a science project, Anka recorded whether it rained each weekday and weekend day for 12 weeks. Her results are summarized in the table below.

Weekday and Weekend Day Rain for 12 Weeks

	Rain	No rain	Total
Number of weekdays	12	48	60
Number of weekend days	8	16	24
Total	20	64	84

If one of the days on which there was no rain is selected at random, what is the probability the day was a weekend day?

A.  $\frac{4}{21}$

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

C.  $\frac{2}{3}$

D.  $\frac{3}{4}$

## Question ID 3a6ed720

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 3a6ed720

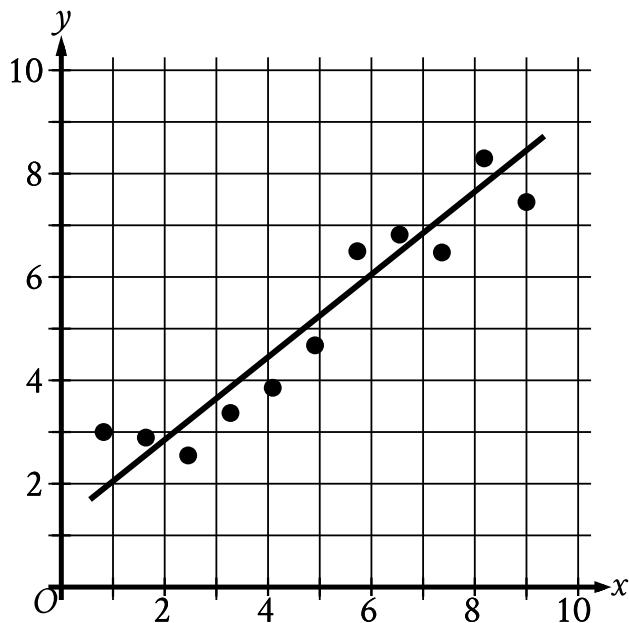
Of **900,000** beads, **828,000** are silver. What percentage of the beads are silver?

- A. **8%**
- B. **36%**
- C. **72%**
- D. **92%**

# Question ID ad7dbb22

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: ad7dbb22



The scatterplot shows the relationship between two variables,  $x$  and  $y$ . A line of best fit is also shown. For how many of the 11 data points does the line of best fit predict a greater  $y$ -value than the actual  $y$ -value?

## Question ID 85b33aa8

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 85b33aa8

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

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

# Question ID 284303f1

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: 284303f1

There are **250** trees in a park. Of these trees, **6%** are birch trees. How many birch trees are in the park?

- A. **6**
- B. **15**
- C. **75**
- D. **244**

## Question ID ba61d95f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 50%; background-color: #e0e0e0; height: 10px;"></div>

ID: ba61d95f

The population of Greenville increased by 7% from 2015 to 2016. If the 2016 population is  $k$  times the 2015 population, what is the value of  $k$ ?

- A. 0.07
- B. 0.7
- C. 1.07
- D. 1.7

# Question ID 873d2838

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 50%; background-color: #e0e0e0; height: 10px;"></div>

ID: 873d2838

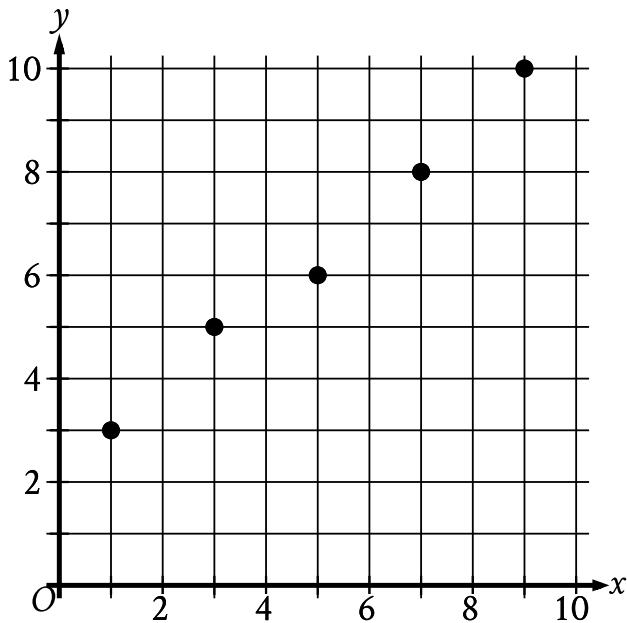
The population density of Cedar County is **230** people per square mile. The county has a population of **85,100** people. What is the area, in square miles, of Cedar County?

# Question ID 16988f9c

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: 16988f9c

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



Which equation is the most appropriate linear model for this relationship?

- A.  $y = -0.9x - 2.2$
- B.  $y = -0.9x + 2.2$
- C.  $y = -0.9x$
- D.  $y = 0.9x + 2.2$

## Question ID 2cdefcb1

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: 2cdefcb1

What length, in centimeters, is equivalent to a length of **51** meters? (**1 meter = 100 centimeters**)

- A. 0.051
- B. 0.51
- C. 5,100
- D. 51,000

# Question ID 6a715bed

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: 6a715bed

The table summarizes the distribution of age and assigned group for **90** participants in a study.

	0–9 years	10–19 years	20+ years	Total
Group A	7	14	9	30
Group B	6	4	20	30
Group C	17	12	1	30
Total	30	30	30	90

One of these participants will be selected at random. What is the probability of selecting a participant from group A, given that the participant is at least **10** years of age? (Express your answer as a decimal or fraction, not as a percent.)

# Question ID 8cbf1415

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 20%; background-color: #0056b3; height: 10px;"></div> <div style="width: 20%; background-color: #0056b3; height: 10px;"></div> <div style="width: 60%; background-color: #e0e0e0; height: 10px;"></div>

ID: 8cbf1415

In a group, **40%** of the items are red. Of all the red items in the group, **30%** also have stripes. What percentage of the items in the group are red with stripes?

- A. **10%**
- B. **12%**
- C. **70%**
- D. **75%**

## Question ID c7c6445f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: c7c6445f

A certain town has an area of **4.36** square miles. What is the area, in square yards, of this town? (**1 mile = 1,760 yards**)

- A. 404
- B. 7,674
- C. 710,459
- D. 13,505,536

# Question ID c54b92a2

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

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

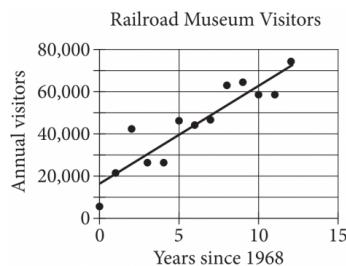
What is the range of the number of wheels made for the 11 one-hour periods?

- A. 5.5
- B. 5.0
- C. 4.5
- D. 4.0

# Question ID 3c5b19ef

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #005599; height: 10px;"></div> <div style="width: 50%; background-color: #CCCCCC; height: 10px;"></div>

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.  $n = 9,060 + 16,090t$

# Question ID 73ddfdac

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: 73ddfdac

A distance of 112 furlongs is equivalent to how many feet? (1 furlong = 220 yards and 1 yard = 3 feet)

# Question ID 96a45430

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 20%; background-color: #0056b3; height: 10px;"></div> <div style="width: 20%; background-color: #0056b3; height: 10px;"></div> <div style="width: 60%; background-color: #e0e0e0; height: 10px;"></div>

ID: 96a45430

A number  $n$  is increased 6%. If the result is 318, what is the value of  $n$ ?

- A. 199
- B. 299
- C. 300
- D. 337

## Question ID 5267c3c7

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: 5267c3c7

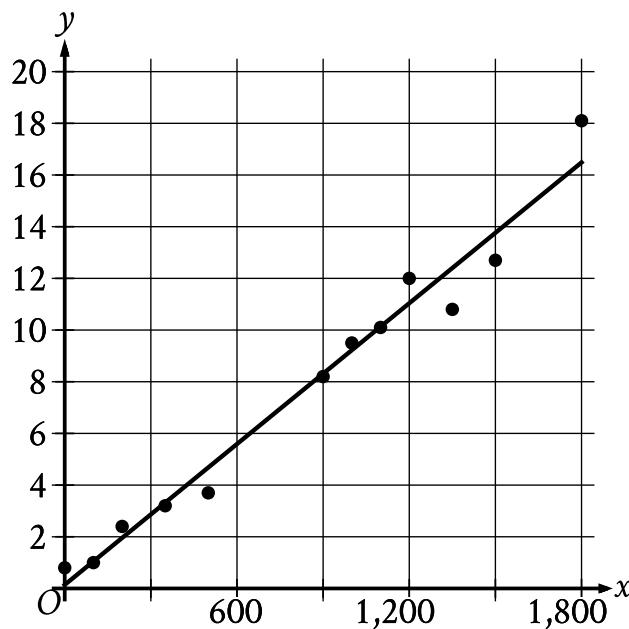
The result of increasing the quantity  $x$  by 400% is 60. What is the value of  $x$ ?

- A. 12
- B. 15
- C. 240
- D. 340

# Question ID ae32cc3c

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #cccccc; height: 10px;"></div> <div style="width: 25%; background-color: #cccccc; height: 10px;"></div>

ID: ae32cc3c



Twelve data points are shown in the scatterplot. A line of best fit for the data is also shown. At  $x = 1,200$ , which of the following is closest to the  $y$ -value predicted by the line of best fit?

- A. 16
- B. 14
- C. 11
- D. 6

# Question ID 82dfb646

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Evaluating statistical claims: Observational studies and experiments	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: 82dfb646

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.

## Question ID 5c3c2e3c

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #005599; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: 5c3c2e3c

The weights, in pounds, for 15 horses in a stable were reported, and the mean, median, range, and standard deviation for the data were found. The horse with the lowest reported weight was found to actually weigh 10 pounds less than its reported weight. What value remains unchanged if the four values are reported using the corrected weight?

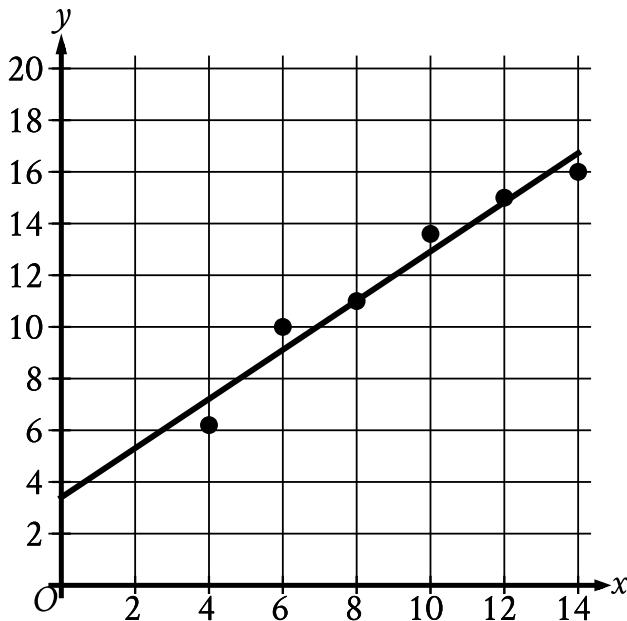
- A. Mean
- B. Median
- C. Range
- D. Standard deviation

# Question ID c5ee6ac0

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: c5ee6ac0

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



Which of the following equations best represents the line of best fit shown?

- A.  $y = x + 3.4$
- B.  $y = x - 3.4$
- C.  $y = -x + 3.4$
- D.  $y = -x - 3.4$

# Question ID 61b87506

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: 61b87506

For the values  $j$  and  $k$ , the ratio of  $j$  to  $k$  is 11 to 12. If  $j$  is multiplied by 17, what is  $k$  multiplied by in order to maintain the same ratio?

## Question ID 30db8f77

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 20%; background-color: #003366; height: 10px;"></div> <div style="width: 20%; background-color: #003366; height: 10px;"></div> <div style="width: 60%; background-color: #cccccc; height: 10px;"></div>

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?

# Question ID 43744269

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: 43744269

An airplane descends from an altitude of **9,500** feet to **5,000** feet at a constant rate of **400** feet per minute. What type of function best models the relationship between the descending airplane's altitude and time?

- A. Decreasing exponential
- B. Decreasing linear
- C. Increasing exponential
- D. Increasing linear

# Question ID 3ac09984

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: 3ac09984

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

# Question ID 66f03086

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: 66f03086

71, 72, 73, 76, 77, 79, 83, 87, 93

What is the median of the data shown?

- A. 71
- B. 77
- C. 78
- D. 79

# Question ID 61f61789

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 30%; background-color: #0056b3; height: 10px;"></div> <div style="width: 30%; background-color: #0056b3; height: 10px;"></div> <div style="width: 30%; background-color: #0056b3; height: 10px;"></div>

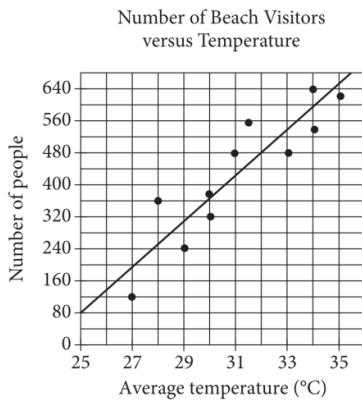
ID: 61f61789

To study the moisture content in a group of trees, samples from the trunk of each tree were taken from **25** trees and cut in the shape of a cube. The length of the edge of one of these cubes is **2.00** centimeters. If this cube has a mass of **2.56** grams, what is the density of this cube, in grams per cubic centimeter?

# Question ID d0430601

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 100px; height: 10px; background-color: #0056b3;"></div>

ID: d0430601



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. The line of best fit for the data has a slope of approximately 57. According to this estimate, how many additional people per day are predicted to visit the beach for each 5°C increase in average temperature?

# Question ID 9110c120

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #005599; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: 9110c120

Data set A: 5, 5, 5, 5, 5, 5, 5, 5, 5, 5

Data set B: 5, 5, 5, 5, 5, 5, 5, 5, 5, 100

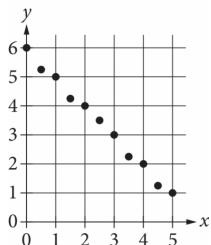
Which of the following statements about the means and medians of data set A and data set B is true?

- A. Only the means are different.
- B. Only the medians are different.
- C. Both the means and the medians are different.
- D. Neither the means nor the medians are different.

# Question ID 9296553d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: 9296553d



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.  $y = 6x - 1$

# Question ID d1db8def

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

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

## Question ID b2f6f17d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 50%; background-color: #e0e0e0; height: 10px;"></div>

ID: b2f6f17d

A customer's monthly water bill was \$75.74. Due to a rate increase, her monthly bill is now \$79.86. To the nearest tenth of a percent, by what percent did the amount of the customer's water bill increase?

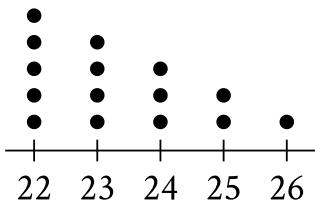
- A. 4.1%
- B. 5.1%
- C. 5.2%
- D. 5.4%

# Question ID 4626102e

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: 4626102e

Data Set A



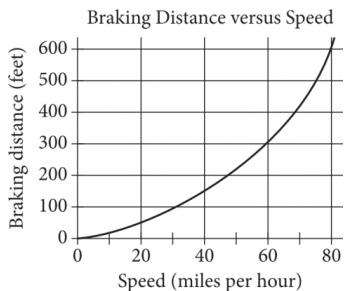
The dot plot represents the 15 values in data set A. Data set B is created by adding 56 to each of the values in data set A. Which of the following correctly compares the medians and the ranges of data sets A and B?

- A. The median of data set B is equal to the median of data set A, and the range of data set B is equal to the range of data set A.
- B. The median of data set B is equal to the median of data set A, and the range of data set B is greater than the range of data set A.
- C. The median of data set B is greater than the median of data set A, and the range of data set B is equal to the range of data set A.
- D. The median of data set B is greater than the median of data set A, and the range of data set B is greater than the range of data set A.

# Question ID d6121490

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

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

# Question ID 55cfaf22

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: 55cfaf22

Data set X: **5, 9, 9, 13**

Data set Y: **5, 9, 9, 13, 27**

The lists give the values in data sets X and Y. Which statement correctly compares the mean of data set X and the mean of data set Y?

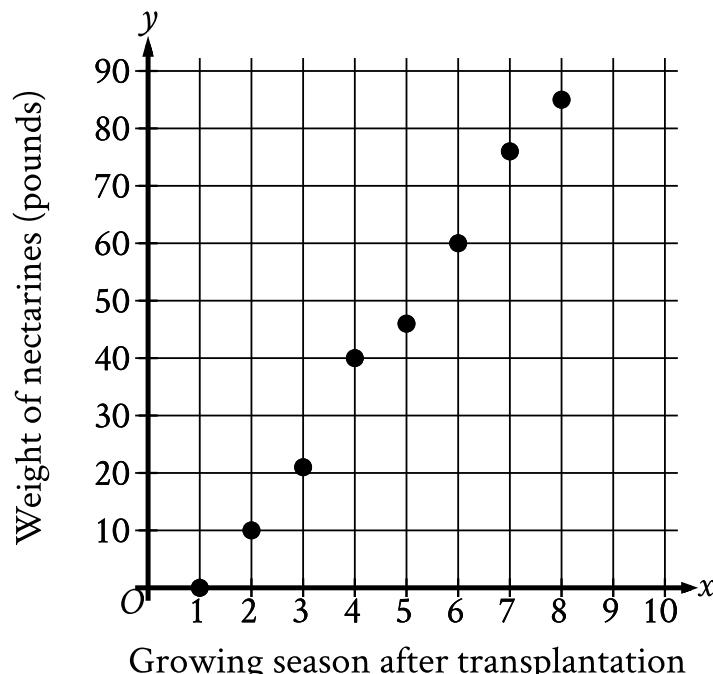
- A. The mean of data set X is greater than the mean of data set Y.
- B. The mean of data set X is less than the mean of data set Y.
- C. The means of data set X and data set Y are equal.
- D. There is not enough information to compare the means.

# Question ID b58dbf88

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: b58dbf88

An orchard owner recorded the weight, in pounds, of all nectarines that grew on a dwarf nectarine tree during each growing season after the tree's transplantation. The scatterplot shows this weight, in pounds, for each growing season after the tree's transplantation.



What was the weight, to the nearest pound, of all nectarines that grew on the tree during the **4th** growing season after the tree's transplantation?

## Question ID 5154615f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 30%; background-color: #0056b3; height: 10px;"></div> <div style="width: 30%; background-color: #0056b3; height: 10px;"></div> <div style="width: 30%; background-color: #0056b3; height: 10px;"></div>

ID: 5154615f

To study fluctuations in composition, samples of pumice were taken from **29** locations and cut in the shape of a cube. The length of the edge of one of these cubes is **3.000** centimeters. This cube has a density of **0.230** grams per cubic centimeter. What is the mass of this cube, in grams?

# Question ID ab7740a8

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: ab7740a8

In which of the following tables is the relationship between the values of  $x$  and their corresponding  $y$ -values nonlinear?

A.

$x$	1	2	3	4
$y$	8	11	14	17

B.

$x$	1	2	3	4
$y$	4	8	12	16

C.

$x$	1	2	3	4
$y$	8	13	18	23

D.

$x$	1	2	3	4
$y$	6	12	24	48

## Question ID 2a08d878

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: 2a08d878

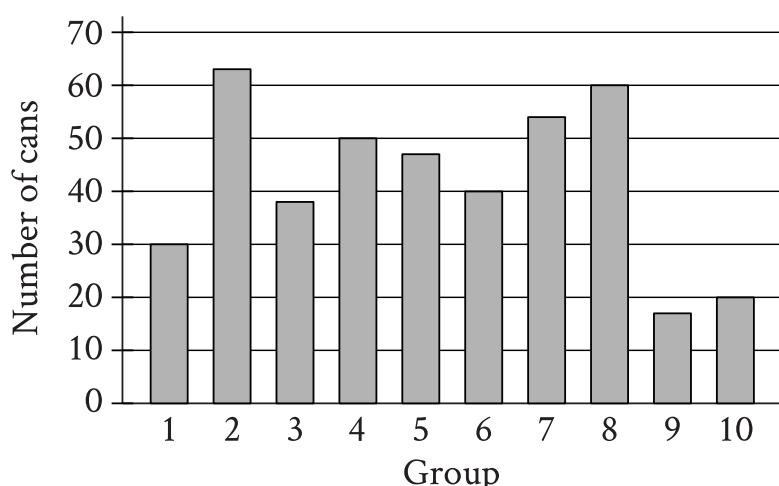
There are  $n$  nonfiction books and 12 fiction books on a bookshelf. If one of these books is selected at random, what is the probability of selecting a nonfiction book, in terms of  $n$ ?

- A.  $\frac{n}{12}$
- B.  $\frac{n}{n+12}$
- C.  $\frac{12}{n}$
- D.  $\frac{12}{n+12}$

# Question ID 820d7a73

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 25%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 25%; background-color: #D9D9D9; height: 10px;"></div>

ID: 820d7a73



The bar graph shows the distribution of 419 cans collected by 10 different groups for a food drive. How many cans were collected by group 6?

## Question ID 38a9ac45

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

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.  $\frac{1}{50}$

## Question ID 9c44f828

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 9c44f828

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**

# Question ID eb672707

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 50%; background-color: #e0e0e0; height: 10px;"></div>

ID: eb672707

How many tablespoons are equivalent to **14** teaspoons? (**3 teaspoons = 1 tablespoon**)

## Question ID 7270d642

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: 7270d642

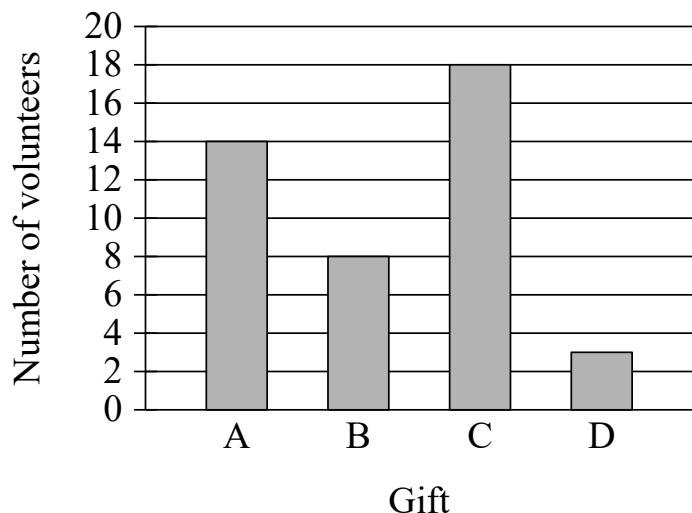
A certain bird species can fly at an average speed of **16** meters per second when in continuous flight. At this rate, how many meters would this bird species fly in **4** seconds?

- A. **64**
- B. **20**
- C. **16**
- D. **12**

# Question ID 6e3ab4bf

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #cccccc; height: 10px;"></div> <div style="width: 25%; background-color: #cccccc; height: 10px;"></div>

ID: 6e3ab4bf



In April, there were **43** volunteers in a cleanup project. Each volunteer was asked to choose a small gift labeled A, B, C, or D. The bar graph shows the number of volunteers who chose each gift. How many volunteers chose gift C?

- A. 3
- B. 8
- C. 14
- D. 18

## Question ID c256b723

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 20%;">■</div> <div style="width: 20%;">■</div> <div style="width: 60%; background-color: #cccccc;">■</div>

ID: c256b723

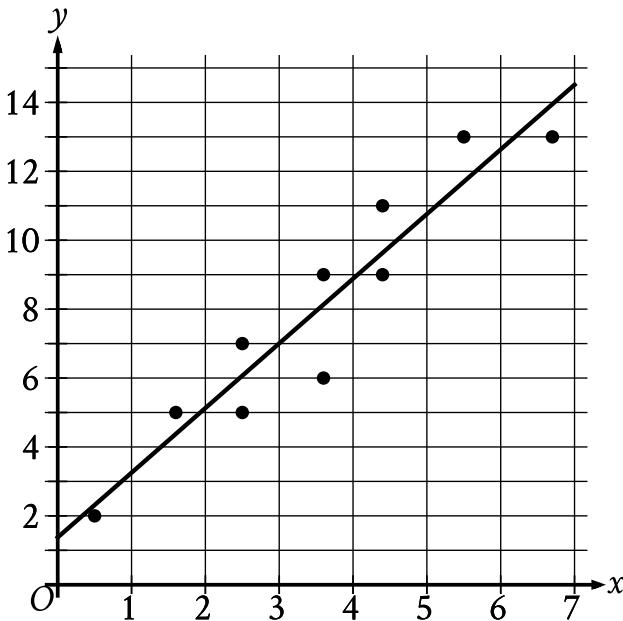
The amount of Hanna's bill for a food order was **\$50**. Hanna gave a tip of **20%** of the amount of the bill. What is the amount, in dollars, of the tip Hanna gave?

# Question ID 90ba8f98

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #005599; height: 10px;"></div> <div style="width: 50%; background-color: #CCCCCC; height: 10px;"></div>

ID: 90ba8f98

In the given scatterplot, a line of best fit for the data is shown.



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

- A. 0
- B.  $\frac{1}{2}$
- C. 1
- D. 2

# Question ID 881ef5f5

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #005599; height: 10px;"></div> <div style="width: 50%; background-color: #CCCCCC; height: 10px;"></div>

ID: 881ef5f5

If  $a$  is the mean and  $b$  is the median of nine consecutive integers, what is the value of  $|a - b|$ ?

## Question ID 273b7f37

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 273b7f37

Isabel grows potatoes in her garden. This year, she harvested **760** potatoes and saved **10%** of them to plant next year. How many of the harvested potatoes did Isabel save to plant next year?

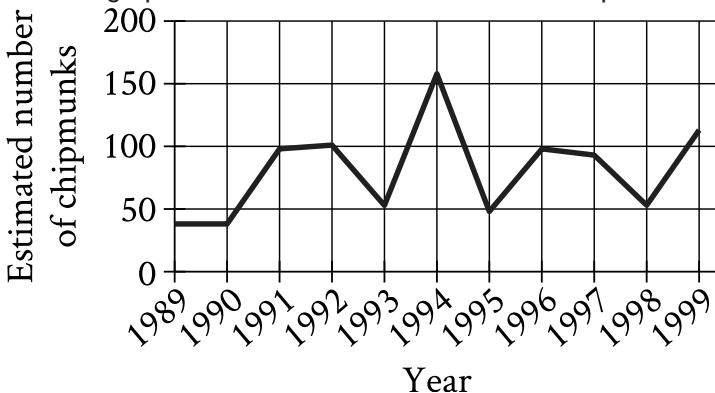
- A. **66**
- B. **76**
- C. **84**
- D. **86**

# Question ID 2e511919

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: 2e511919

The line graph shows the estimated number of chipmunks in a state park on April 1 of each year from 1989 to 1999.



Based on the line graph, in which year was the estimated number of chipmunks in the state park the greatest?

- A. 1989
- B. 1994
- C. 1995
- D. 1998

# Question ID 7ed0d098

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 7ed0d098

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

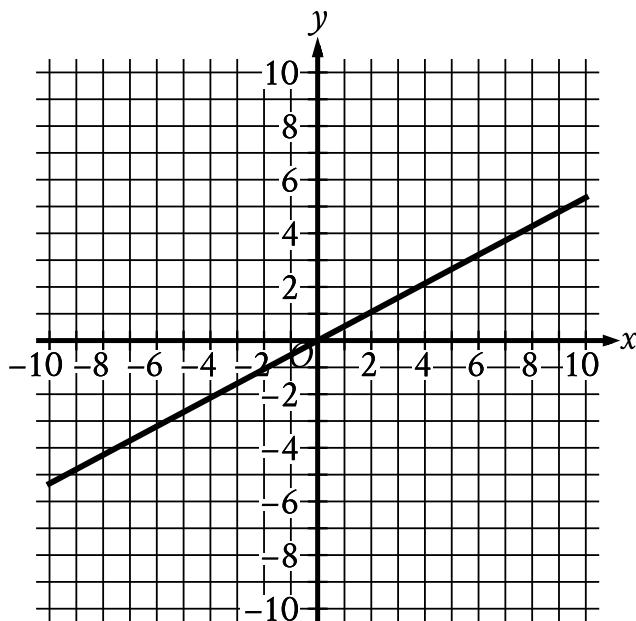
- A. 1.2
- B. 15
- C. 48
- D. 72

# Question ID c141366d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: c141366d

The graph of function  $f$  is shown, where  $y = f(x)$ .



Which of the following describes function  $f$ ?

- A. Increasing linear
- B. Decreasing linear
- C. Increasing exponential
- D. Decreasing exponential

## Question ID 20845d36

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: 20845d36

The number  $a$  is 70% less than the positive number  $b$ . The number  $c$  is 60% greater than  $a$ . The number  $c$  is how many times  $b$ ?

## Question ID 8bf3f67a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 8bf3f67a

A special camera is used for underwater ocean research. The camera is at a depth of **39** fathoms. What is the camera's depth in feet? (**1 fathom = 6 feet**)

- A. **234**
- B. **117**
- C. **45**
- D. **7**

# Question ID a478f9f5

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: a478f9f5

Each of 157 gemstones can be classified as one of three classifications, as shown in the frequency table.

Classification	Frequency
color X	119
color Y	3
color Z	35

If one of the gemstones is selected at random, what is the probability of selecting a gemstone of color Y?

- A.  $\frac{3}{157}$
- B.  $\frac{35}{157}$
- C.  $\frac{119}{157}$
- D.  $\frac{154}{157}$

# Question ID dae79de4

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #0056b3;"></div> <div style="width: 75%; background-color: #e0e0e0;"></div> <div style="width: 75%; background-color: #e0e0e0;"></div>

ID: dae79de4

	1 visit	2 or more visits	Total
Less than 40 years old	15	15	30
At least 40 years old	20	85	105
<b>Total</b>	<b>35</b>	<b>100</b>	<b>135</b>

The table summarizes customers who visited a car dealership in the last month by age and number of visits they made to the dealership. If a customer from the last month is selected at random, what is the probability that the selected customer is at least 40 years old?

- A.  $\frac{30}{135}$
- B.  $\frac{35}{135}$
- C.  $\frac{100}{135}$
- D.  $\frac{105}{135}$

# Question ID 4bb25495

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

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

## Question ID aa43b41f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Evaluating statistical claims: Observational studies and experiments	<div style="width: 75%; background-color: #005a99; height: 10px;"></div>

ID: aa43b41f

Near the end of a US cable news show, the host invited viewers to respond to a poll on the show's website that asked, "Do you support the new federal policy discussed during the show?" At the end of the show, the host reported that 28% responded "Yes," and 70% responded "No." Which of the following best explains why the results are unlikely to represent the sentiments of the population of the United States?

- A. The percentages do not add up to 100%, so any possible conclusions from the poll are invalid.
- B. Those who responded to the poll were not a random sample of the population of the United States.
- C. There were not 50% "Yes" responses and 50% "No" responses.
- D. The show did not allow viewers enough time to respond to the poll.

## Question ID cb4894f9

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: cb4894f9

A triathlon is a multisport race consisting of three different legs. A triathlon participant completed the cycling leg with an average speed of **19.700** miles per hour. What was the average speed, in yards per hour, of the participant during the cycling leg? (**1 mile = 1,760 yards**)

# Question ID b6569d0e

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #005599; height: 10px;"></div> <div style="width: 50%; background-color: #CCCCCC; height: 10px;"></div>

ID: b6569d0e

United States  
Presidents  
from 1789 to  
2015

Ages	Number
40–44	2
45–49	7
50–54	13
55–59	11
60–64	7
65–69	3

The table above gives the number of United States presidents from 1789 to 2015 whose age at the time they first took office is within the interval listed. Of those presidents who were at least 50 years old when they first took office, what fraction were at least 60 years old?

A.  $\frac{10}{43}$

B.  $\frac{10}{34}$

C.  $\frac{10}{24}$

D.  $\frac{25}{34}$

## Question ID 50b99b2d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: 50b99b2d

Objects R and S each travel at a constant speed. The speed of object R is half the speed of object S. Object R travels a distance of  $4x$  inches in  $y$  seconds. Which expression represents the time, in seconds, it takes object S to travel a distance of  $24x$  inches?

- A.  $12y$
- B.  $3y$
- C.  $16y$
- D.  $6y$

# Question ID 5dc386fb

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: 5dc386fb

The table below shows the distribution of US states according to whether they have a state-level sales tax and a state-level income tax.

2013 State-Level Taxes

	State sales tax	No state sales tax
State income tax	39	4
No state income tax	6	1

To the nearest tenth of a percent, what percent of states with a state-level sales tax do not have a state-level income tax?

- A. 6.0%
- B. 12.0%
- C. 13.3%
- D. 14.0%

## Question ID c47256ca

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: c47256ca

An object's speed is **64 yards** per second. What is the object's speed, in feet per second? (**1 yard = 3 feet**)

- A. 61
- B. 67
- C. 94
- D. 192

## Question ID 86684ce9

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #0056b3; height: 10px;"></div>

ID: 86684ce9

The result of increasing the quantity  $x$  by 1,800% is 684. What is the value of  $x$ ?

- A. 12,996
- B. 12,312
- C. 38
- D. 36

## Question ID 551c52b9

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 551c52b9

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.  $p - 39$

## Question ID 014c47ab

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 75%; background-color: #005a9f; height: 10px;"></div>

ID: 014c47ab

	Site A	Site B	Total
Tulip	35	15	50
Daffodil	31	21	52
<b>Total</b>	<b>66</b>	<b>36</b>	<b>102</b>

The table shows the distribution of two types of flowers at two different sites. If a flower represented in the table is selected at random, what is the probability of selecting a flower from site A, given that the flower is a tulip? (Express your answer as a decimal or fraction, not as a percent.)

## Question ID 1180401d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #005599; height: 10px;"></div> <div style="width: 50%; background-color: #CCCCCC; height: 10px;"></div>

ID: 1180401d

The total area of a coastal city is 92.1 square miles, of which 11.3 square miles is water. If the city had a population of 621,000 people in the year 2010, which of the following is closest to the population density, in people per square mile of land area, of the city at that time?

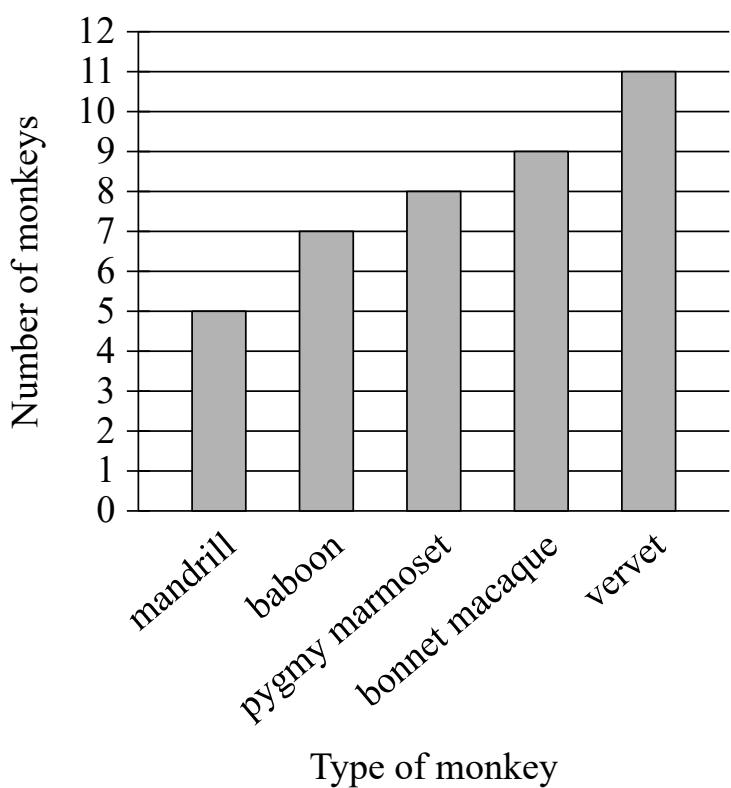
- A. 6,740
- B. 7,690
- C. 55,000
- D. 76,000

# Question ID 57481175

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: 57481175

The bar graph shows the number of each type of monkey in a sanctuary.



How many more vervets are in this sanctuary than mandrills?

- A. 11
- B. 6
- C. 5
- D. 3

# Question ID 1b8e412e

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: 1b8e412e

$-11, -9, 26$

A data set of three numbers is shown. If a number from this data set is selected at random, what is the probability of selecting a positive number?

- A. 0
- B.  $\frac{1}{3}$
- C.  $\frac{2}{3}$
- D. 1

## Question ID f6cbb04a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 50%; background-color: #e0e0e0; height: 10px;"></div>

ID: f6cbb04a

$$d = 55t$$

The equation above can be used to calculate the distance  $d$ , in miles, traveled by a car moving at a speed of 55 miles per hour over a period of  $t$  hours. For any positive constant  $k$ , the distance the car would have traveled after  $9k$  hours is how many times the distance the car would have traveled after  $3k$  hours?

- A. 3
- B. 6
- C.  $3k$
- D.  $6k$

## Question ID 568bc2a4

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: 568bc2a4

A distance of **354** furlongs is equivalent to how many feet? (**1 furlong = 220 yards and 1 yard = 3 feet**)

- A. **306**
- B. **402**
- C. **25,960**
- D. **233,640**

## Question ID 96c3e32d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 50%; background-color: #e0e0e0; height: 10px;"></div>

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?

## Question ID 98958ae8

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 75%; background-color: #005a9f; height: 10px;"></div>

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?

## Question ID 391ae4b2

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 75%;"><div style="width: 100px; height: 10px; background-color: #0056b3;"></div></div>

ID: 391ae4b2

Data set F consists of **55** integers between **170** and **290**. Data set G consists of all the integers in data set F as well as the integer **10**. Which of the following must be less for data set F than for data set G?

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

# Question ID 4096a482

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Inference from sample statistics and margin of error	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: 4096a482

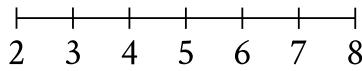
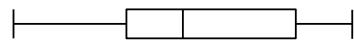
Based on a random sample from a population, a researcher estimated that the mean value of a certain variable for the population is **20.5**, with an associated margin of error of **1**. Which of the following is the most appropriate conclusion?

- A. It is plausible that the actual mean value of the variable for the population is between **19.5** and **21.5**.
- B. It is not possible that the mean value of the variable for the population is less than **19.5** or greater than **21.5**.
- C. Every value of the variable in the population is between **19.5** and **21.5**.
- D. The mean value of the variable for the population is **20.5**.

# Question ID 57f45509

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: 57f45509



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

- A. 2
- B. 3
- C. 5
- D. 8

## Question ID 2a59eb45

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: 2a59eb45

Data set A consists of the heights of **75** buildings and has a mean of **32** meters. Data set B consists of the heights of **50** buildings and has a mean of **62** meters. Data set C consists of the heights of the **125** buildings from data sets A and B. What is the mean, in meters, of data set C?

## Question ID 623dbebb

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: 623dbebb

A reseller buys certain books for a purchase price of **5.00** dollars each and then marks them each for sale at a consumer price that is **270%** of the purchase price. After **4** months, any remaining books not yet sold are marked at a discounted price that is **70%** off the consumer price. What is the discounted price of each of the remaining books, in dollars?

## Question ID 2afd3cec

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 30%; background-color: #0056b3; height: 10px;"></div> <div style="width: 30%; background-color: #0056b3; height: 10px;"></div> <div style="width: 30%; background-color: #0056b3; height: 10px;"></div>

ID: 2afd3cec

After **20%** of the original number of marbles in a group were removed from the group, **360** marbles remained in the group. How many marbles were removed from the group?

- A. **72**
- B. **90**
- C. **450**
- D. **1,800**

## Question ID 2e92cc21

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 30%; background-color: #0056b3; height: 10px;"></div> <div style="width: 30%; background-color: #0056b3; height: 10px;"></div> <div style="width: 30%; background-color: #0056b3; height: 10px;"></div>

ID: 2e92cc21

The number  $a$  is 110% greater than the number  $b$ . The number  $b$  is 90% less than 47. What is the value of  $a$ ?

# Question ID 7f84b136

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3;"></div> <div style="width: 25%; background-color: #0056b3;"></div> <div style="width: 50%; background-color: #e0e0e0;"></div>

ID: 7f84b136

The table summarizes the number of objects in each group.

Group	Number of objects
A	375
B	54
C	690
D	81
Total	1,200

The number of objects in group C is  $p\%$  of the number of objects in group A. What is the value of  $p$ ?

# Question ID 77cf4fa6

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 77cf4fa6

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

# Question ID 2d31caae

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 20%; background-color: #0056b3;"></div> <div style="width: 10%; background-color: #e0e0e0;"></div> <div style="width: 10%; background-color: #e0e0e0;"></div>

ID: 2d31caae

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%

## Question ID 4a422e3e

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Evaluating statistical claims: Observational studies and experiments	<div style="width: 75%; background-color: #005a9f; height: 10px;"></div>

ID: 4a422e3e

To determine the mean number of children per household in a community, Tabitha surveyed 20 families at a playground. For the 20 families surveyed, the mean number of children per household was 2.4. Which of the following statements must be true?

- A. The mean number of children per household in the community is 2.4.
- B. A determination about the mean number of children per household in the community should not be made because the sample size is too small.
- C. The sampling method is flawed and may produce a biased estimate of the mean number of children per household in the community.
- D. The sampling method is not flawed and is likely to produce an unbiased estimate of the mean number of children per household in the community.

## Question ID 94660ba8

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: 94660ba8

A participant in a bicycle race completes the race with an average speed of **24,816** yards per hour. What is this average speed, in miles per hour? (**1 mile = 1,760 yards**)

# Question ID ba0e23b0

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: ba0e23b0

140 is  $p\%$  greater than 10. What is the value of  $p$ ?

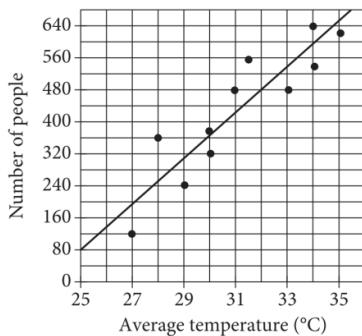
- A. 1,400
- B. 1,300
- C. 140
- D. 130

# Question ID 8156d446

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #002060; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 8156d446

Number of Beach Visitors versus Temperature



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?

## Question ID c2e7fa6d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: c2e7fa6d

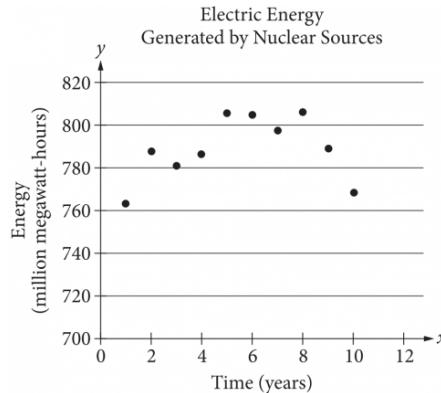
For an electric field passing through a flat surface perpendicular to it, the electric flux of the electric field through the surface is the product of the electric field's strength and the area of the surface. A certain flat surface consists of two adjacent squares, where the side length, in meters, of the larger square is **3** times the side length, in meters, of the smaller square. An electric field with strength **29.00** volts per meter passes uniformly through this surface, which is perpendicular to the electric field. If the total electric flux of the electric field through this surface is **4,640 volts · meters**, what is the electric flux, in **volts · meters**, of the electric field through the larger square?

# Question ID e821a26d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 100px; height: 10px; background-color: #0056b3;"></div>

ID: e821a26d

The scatterplot below shows the amount of electric energy generated, in millions of megawatt-hours, by nuclear sources over a 10-year period.



Of the following equations, which best models the data in the scatterplot?

- A.  $y = 1.674x^2 + 19.76x - 745.73$
- B.  $y = -1.674x^2 - 19.76x - 745.73$
- C.  $y = 1.674x^2 + 19.76x + 745.73$
- D.  $y = -1.674x^2 + 19.76x + 745.73$

# Question ID 21e539a0

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: 21e539a0

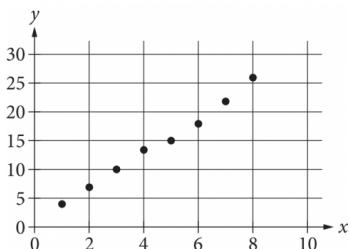
A landscaper uses a hose that puts  $88x$  ounces of water in a bucket in  $5y$  minutes. Which expression represents the number of ounces of water the hose puts in the bucket in  $9y$  minutes at this rate?

- A.  $\frac{9x}{440}$
- B.  $\frac{440x}{9}$
- C.  $\frac{5x}{792}$
- D.  $\frac{792x}{5}$

# Question ID 9eb896c5

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

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.  $y = -3x + 0.8$

## Question ID 194ae3b1

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #005a9f;"></div> <div style="width: 75%; background-color: #e0e0e0;"></div> <div style="width: 75%; background-color: #e0e0e0;"></div>

ID: 194ae3b1

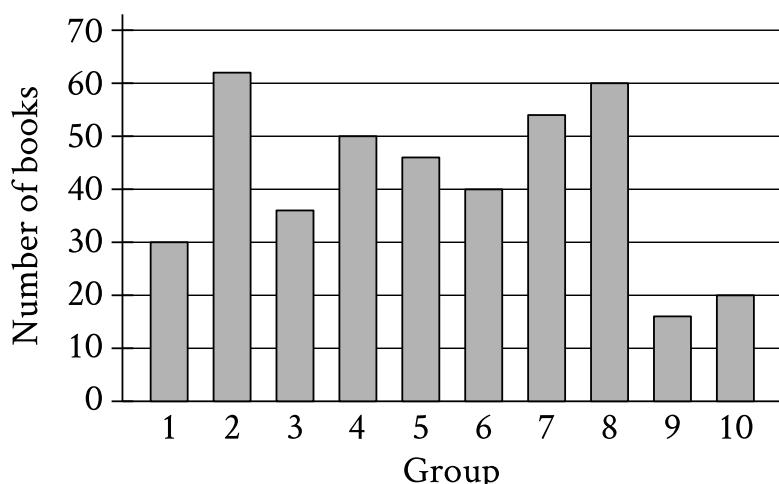
There were approximately 113,000 occupational therapy jobs in the United States in 2012. The Bureau of Labor Statistics has projected that this number will increase by 29% from 2012 to 2022. Of the following, which is closest to the number of occupational therapy jobs the bureau has projected for the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

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

# Question ID 79340403

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 25%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 25%; background-color: #D9D9D9; height: 10px;"></div>

ID: 79340403



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?

# Question ID a8fabad0

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

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

# Question ID 4837406c

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 4837406c

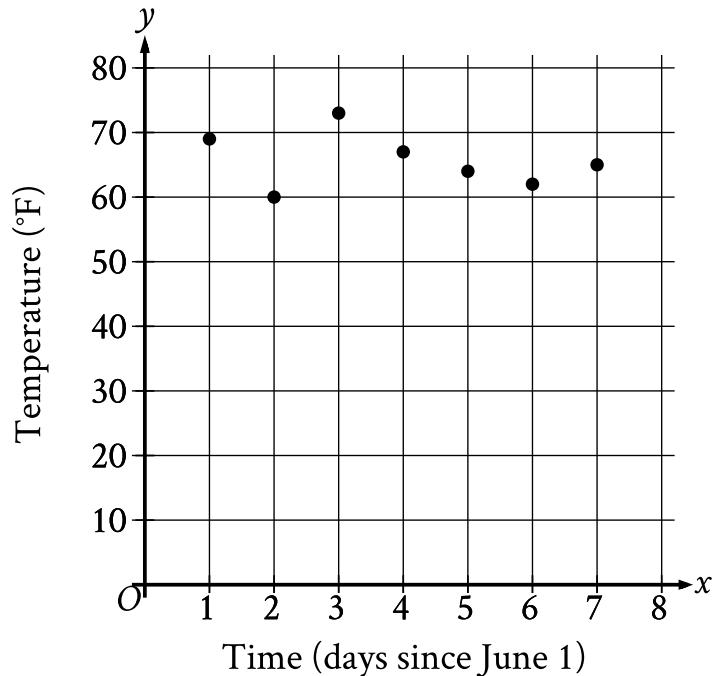
An object travels at a constant speed of **6** centimeters per second. At this speed, what is the time, in seconds, that it would take for the object to travel **24** centimeters?

# Question ID d112bc9d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: d112bc9d

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  $x = 2$

# Question ID 99550621

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: 99550621

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

## Question ID 3318d37b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

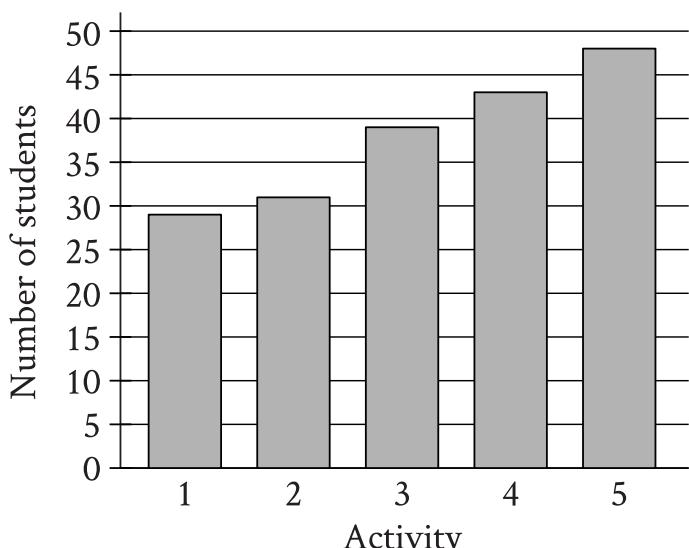
ID: 3318d37b

A product costs **11.00** dollars per pound. What is the cost, in dollars, for **6** pounds of the product?

# Question ID 93779b53

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: 93779b53



A group of students voted on five after-school activities. The bar graph shows the number of students who voted for each of the five activities. How many students chose activity 3?

- A. 25
- B. 39
- C. 48
- D. 50

# Question ID 9d935bd8

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: 9d935bd8

Percent of Residents Who Earned a Bachelor's Degree or Higher

State	Percent of residents
State A	21.9%
State B	27.9%
State C	25.9%
State D	19.5%
State E	30.1%
State F	36.4%
State G	35.5%

A survey was given to residents of all 50 states asking if they had earned a bachelor's degree or higher. The results from 7 of the states are given in the table above. The median percent of residents who earned a bachelor's degree or higher for all 50 states was 26.95%. What is the difference between the median percent of residents who earned a bachelor's degree or higher for these 7 states and the median for all 50 states?

- A. 0.05%
- B. 0.95%
- C. 1.22%
- D. 7.45%

## Question ID 8c5dbd3e

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: 8c5dbd3e

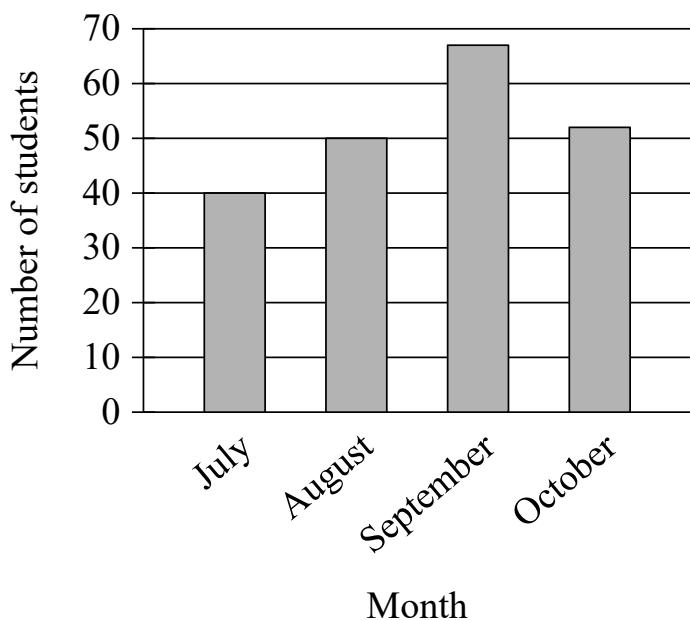
The number  $w$  is 110% greater than the number  $z$ . The number  $z$  is 55% less than 50. What is the value of  $w$ ?

# Question ID a067c926

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #cccccc; height: 10px;"></div> <div style="width: 25%; background-color: #cccccc; height: 10px;"></div>

ID: a067c926

The bar graph shows the distribution of the number of students from one school who were born in one of four months.



How many more students were born in August than were born in July?

- A. 90
- B. 50
- C. 40
- D. 10

# Question ID 94c65646

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 20%; background-color: #0056b3; height: 10px;"></div> <div style="width: 20%; background-color: #0056b3; height: 10px;"></div> <div style="width: 60%; background-color: #e0e0e0; height: 10px;"></div>

ID: 94c65646

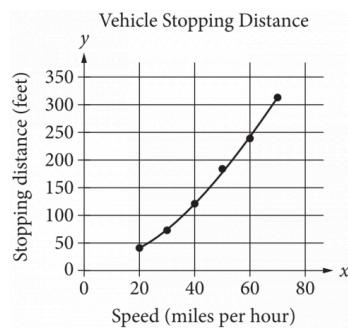
432 is 96% of what number?

# Question ID 5c24c861

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

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.



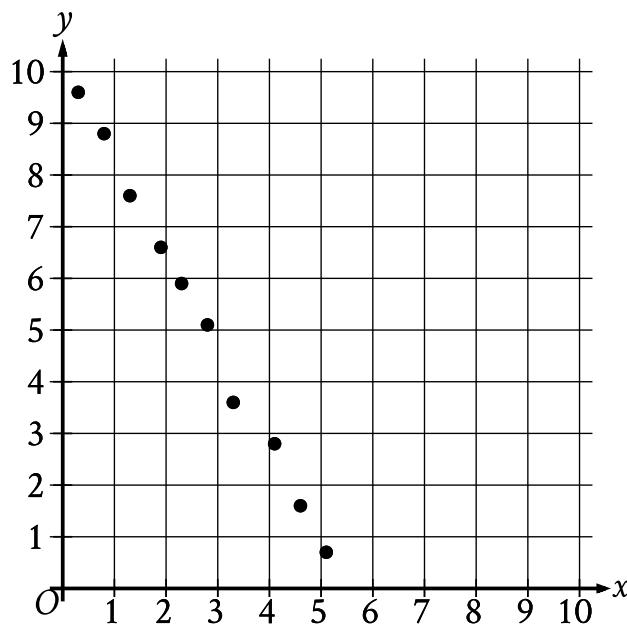
According to the model, which of the following is the best estimate for the stopping distance, in feet, if the vehicle was traveling 55 miles per hour?

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

# Question ID 5f3ee607

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #cccccc; height: 10px;"></div> <div style="width: 25%; background-color: #cccccc; height: 10px;"></div>

ID: 5f3ee607



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.  $y = 1.9x + 10.1$

## Question ID 9e2bf782

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #005599; height: 10px;"></div> <div style="width: 50%; background-color: #CCCCCC; height: 10px;"></div>

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

## Question ID 9ba3e283

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Inference from sample statistics and margin of error	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: 9ba3e283

In State X, Mr. Camp's eighth-grade class consisting of 26 students was surveyed and 34.6 percent of the students reported that they had at least two siblings. The average eighth-grade class size in the state is 26. If the students in Mr. Camp's class are representative of students in the state's eighth-grade classes and there are 1,800 eighth-grade classes in the state, which of the following best estimates the number of eighth-grade students in the state who have fewer than two siblings?

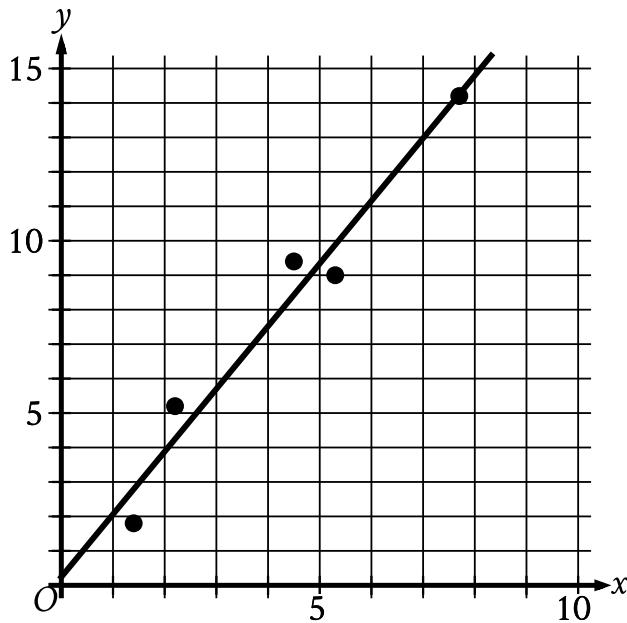
- A. 16,200
- B. 23,400
- C. 30,600
- D. 46,800

# Question ID 4cc05491

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 20%; background-color: #003366; height: 10px;"></div> <div style="width: 20%; background-color: #003366; height: 10px;"></div> <div style="width: 60%; background-color: #cccccc; height: 10px;"></div>

ID: 4cc05491

In the given scatterplot, a line of best fit for the data is shown.



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

- A. 0.2
- B. 0.7
- C. 1.8
- D. 2.6

## Question ID 54cb53cf

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 100px; height: 10px; background-color: #0056b3;"></div>

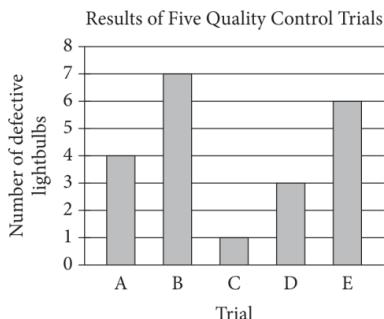
ID: 54cb53cf

The number of zebras in a population in **2018** was **1.27** times the number of zebras in this population in **2014**. If the number of zebras in this population in **2014** is  **$p\%$**  of the number of zebras in this population in **2018**, what is the value of  **$p$** , to the nearest whole number?

# Question ID a9647302

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: a9647302



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

# Question ID 7b731fc3

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 20%; background-color: #0056b3; height: 10px;"></div> <div style="width: 20%; background-color: #0056b3; height: 10px;"></div> <div style="width: 60%; background-color: #e0e0e0; height: 10px;"></div>

ID: 7b731fc3

What number is 40% greater than 115?

## Question ID e9f4521a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 20%; background-color: #0056b3; height: 10px;"></div> <div style="width: 20%; background-color: #0056b3; height: 10px;"></div> <div style="width: 60%; background-color: #e0e0e0; height: 10px;"></div>

ID: e9f4521a

13 is  $p\%$  of 25. What is the value of  $p$ ?

## Question ID 1c2f50a6

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 1c2f50a6

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

## Question ID 89c39d77

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #005a7a; height: 10px;"></div> <div style="width: 25%; background-color: #005a7a; height: 10px;"></div> <div style="width: 50%; background-color: #e0e0e0; height: 10px;"></div>

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 mile = 1,760 yards**)

## Question ID 8193e8cd

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #005599; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: 8193e8cd

2, 10, 3, 7, 6

The mean of the list of numbers above is what fraction of the sum of the five numbers?

## Question ID dccdb20c

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 20%; background-color: #0056b3; height: 10px;"></div> <div style="width: 20%; background-color: #0056b3; height: 10px;"></div> <div style="width: 60%; background-color: #e0e0e0; height: 10px;"></div>

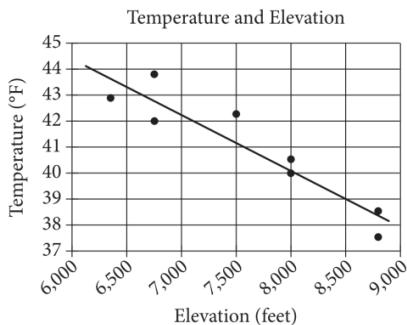
ID: **dccdb20c**

There are **450** tiles in a box. Of these tiles, **6%** are black. How many black tiles are in the box?

# Question ID 661dfddd

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

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.

# Question ID 89f20d9e

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: 89f20d9e

The table summarizes the distribution of age and assigned group for **90** participants in a study.

	0–9 years	10–19 years	20+ years	Total
Group A	5	17	8	30
Group B	6	8	16	30
Group C	19	5	6	30
Total	30	30	30	90

One of these participants will be selected at random. What is the probability of selecting a participant from group A, given that the participant is at least 10 years of age?

- A.  $\frac{5}{18}$
- B.  $\frac{5}{12}$
- C.  $\frac{17}{30}$
- D.  $\frac{5}{6}$

## Question ID a03b7e02

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: a03b7e02

The table shows selected values from function  $f$ .

$x$	$f(x)$
-1	16
0	17
1	18
2	19

Which of the following is the best description of function  $f$ ?

- A. Decreasing linear
- B. Increasing linear
- C. Decreasing exponential
- D. Increasing exponential

# Question ID 97631565

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Inference from sample statistics and margin of error	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: 97631565

Scott selected **20** employees at random from all **400** employees at a company. He found that **16** of the employees in this sample are enrolled in exactly three professional development courses this year. Based on Scott's findings, which of the following is the best estimate of the number of employees at the company who are enrolled in exactly three professional development courses this year?

- A. 4
- B. 320
- C. 380
- D. 384

## Question ID 3d73a58b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 100px; height: 10px; background-color: #0056b3;"></div>

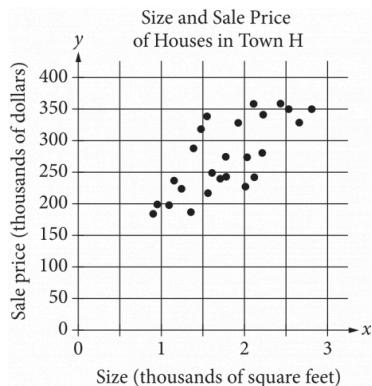
ID: 3d73a58b

A gift shop buys souvenirs at a wholesale price of **7.00** dollars each and resells them each at a retail price that is **290%** of the wholesale price. At the end of the season, any remaining souvenirs are marked at a discounted price that is **80%** off the retail price. What is the discounted price of each remaining souvenir, in dollars?

# Question ID 79137c1b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 150px; height: 10px; background-color: #0056b3;"></div> <div style="width: 150px; height: 10px; background-color: #0056b3;"></div>

ID: 79137c1b



The scatterplot above shows the size  $x$  and the sale price  $y$  of 25 houses for sale in Town H. Which of the following could be an equation for a line of best fit for the data?

- A.  $y = 200x + 100$
- B.  $y = 100x + 100$
- C.  $y = 50x + 100$
- D.  $y = 100x$

## Question ID b8150b17

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: b8150b17

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.  $\frac{29}{10}$

## Question ID 7d093333

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: 7d093333

The area of a rectangular region is increasing at a rate of 250 square feet per hour. Which of the following is closest to this rate in square meters per minute? (Use 1 meter = 3.28 feet.)

- A. 0.39
- B. 1.27
- C. 13.67
- D. 23.24

# Question ID 1dcea480

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: 1dcea480

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?

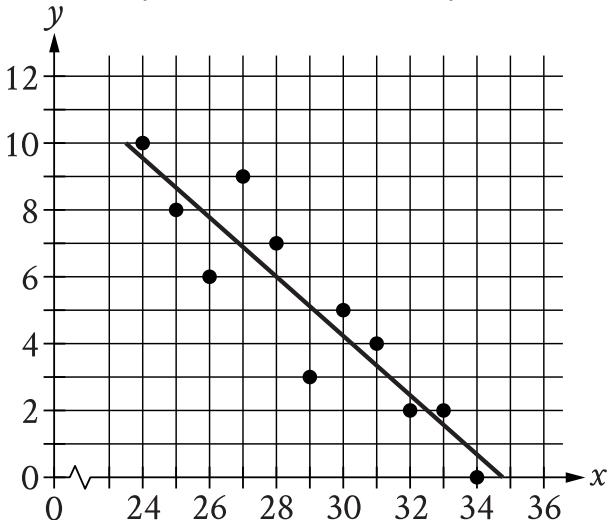
- A. 21
- B. 25
- C. 35
- D. 39

# Question ID fdfc90e4

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: fdfc90e4

The scatterplot shows the relationship between two variables,  $x$  and  $y$ . A line of best fit for the data is also shown.



At  $x = 32$ , which of the following is closest to the  $y$ -value predicted by the line of best fit?

- A. 0.4
- B. 1.5
- C. 2.4
- D. 3.3

# Question ID 674a4084

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: 674a4084

An insect moves at a speed of  $\frac{3}{20}$  feet per second. What is this speed, in yards per second? (**3 feet = 1 yard**)

- A.  $\frac{1}{20}$
- B.  $\frac{9}{20}$
- C. 6
- D. 20

## Question ID a0b165f8

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 75%; background-color: #005a99; height: 10px;"></div>

ID: a0b165f8

A scientist studying the life cycle of dragonflies counted the number of dragonflies in a certain habitat each day for **46** days. On February **15**, there were **99** dragonflies in the habitat. The percent increase in the number of dragonflies in the habitat from January **1** to February **15** was **12.50%**. How many dragonflies were in the habitat on January **1**?

- A. **88**
- B. **87**
- C. **12**
- D. **8**

## Question ID 34e18ce4

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 34e18ce4

There are **350** objects in a box. Of these objects, **4%** are balls. How many balls are in the box?

- A. **4**
- B. **14**
- C. **70**
- D. **346**

## Question ID c943acba

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: c943acba

On a street with 7 houses, 2 houses are blue. If a house from this street is selected at random, what is the probability of selecting a house that is blue?

- A.  $\frac{1}{7}$
- B.  $\frac{2}{7}$
- C.  $\frac{5}{7}$
- D.  $\frac{7}{7}$

# Question ID 1e562f24

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Inference from sample statistics and margin of error	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: 1e562f24

To estimate the proportion of a population that has a certain characteristic, a random sample was selected from the population. Based on the sample, it is estimated that the proportion of the population that has the characteristic is **0.49**, with an associated margin of error of **0.04**. Based on this estimate and margin of error, which of the following is the most appropriate conclusion about the proportion of the population that has the characteristic?

- A. It is plausible that the proportion is between **0.45** and **0.53**.
- B. It is plausible that the proportion is less than **0.45**.
- C. The proportion is exactly **0.49**.
- D. It is plausible that the proportion is greater than **0.53**.

# Question ID 89f8d08a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Inference from sample statistics and margin of error	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #005599; height: 10px;"></div> <div style="width: 50%; background-color: #CCCCCC; height: 10px;"></div>

ID: 89f8d08a

A store manager reviewed the receipts from 80 customers who were selected at random from all the customers who made purchases last Thursday. Of those selected, 20 receipts showed that the customer had purchased fruit. If 1,500 customers made purchases last Thursday, which of the following is the most appropriate conclusion?

- A. Exactly 75 customers must have purchased fruit last Thursday.
- B. Exactly 375 customers must have purchased fruit last Thursday.
- C. The best estimate for the number of customers who purchased fruit last Thursday is 75.
- D. The best estimate for the number of customers who purchased fruit last Thursday is 375.

# Question ID 54d93874

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 75%; background-color: #005a9f; height: 10px;"></div>

ID: 54d93874

	Masses (kilograms)					
Andrew	2.4	2.5	3.6	3.1	2.5	2.7
Maria	x	3.1	2.7	2.9	3.3	2.8

Andrew and Maria each collected six rocks, and the masses of the rocks are shown in the table above. The mean of the masses of the rocks Maria collected is 0.1 kilogram greater than the mean of the masses of the rocks Andrew collected. What is the value of  $x$ ?

# Question ID 6a305cd0

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Inference from sample statistics and margin of error	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: 6a305cd0

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.

## Question ID 048811bd

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 048811bd

What is 10% of 370?

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

# Question ID 869a32f1

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: 869a32f1

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  $81^{\circ}\text{F}$ ?

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

# Question ID 916ffe9b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Inference from sample statistics and margin of error	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: 916ffe9b

Poll Results

Angel Cruz	483
Terry Smith	320

The table shows the results of a poll. A total of 803 voters selected at random were asked which candidate they would vote for in the upcoming election. According to the poll, if 6,424 people vote in the election, by how many votes would Angel Cruz be expected to win?

- A. 163
- B. 1,304
- C. 3,864
- D. 5,621

## Question ID 8173f32b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Inference from sample statistics and margin of error	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: 8173f32b

An analyst collected data on the price of a carton of grape tomatoes at **30** locations selected at random in Utah. The mean price of a carton of grape tomatoes in Utah was estimated to be **\$4.23**, with an associated margin of error of **\$0.08**. Which of the following is a plausible statement about the mean price of a carton of grape tomatoes for all locations that sell this product in Utah?

- A. It is between **\$4.15** and **\$4.31**.
- B. It is either less than **\$4.15** or greater than **\$4.31**.
- C. It is less than **\$4.15**.
- D. It is greater than **\$4.31**.

# Question ID a3384df0

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 20%; background-color: #003366; height: 10px;"></div> <div style="width: 20%; background-color: #003366; height: 10px;"></div> <div style="width: 60%; background-color: #cccccc; height: 10px;"></div>

ID: a3384df0

Penguin Exhibit				
Type of penguin	Male	Female	Total	
Chinstrap	41	59	100	
Emperor	8	27	35	
Gentoo	49	54	103	
Macaroni	42	40	82	
Total	140	180	320	

The number of penguins in a zoo exhibit, sorted by gender and type of penguin, is shown in the table above. Which type of penguin has a female population that is the

$\frac{1}{3}$  closest to being  $\frac{1}{3}$  of the total female penguin population in the exhibit?

- A. Chinstrap
- B. Emperor
- C. Gentoo
- D. Macaroni

# Question ID 6670e407

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 6670e407

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

## Question ID 0a99e5bb

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: 0a99e5bb

**-13, 4, 23**

A data set of three numbers is shown. If a number from this data set is selected at random, what is the probability of selecting a negative number?

- A. 0
- B.  $\frac{1}{3}$
- C.  $\frac{2}{3}$
- D. 1

## Question ID 9b5b23fc

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 75%;"><div style="width: 100px; height: 10px; background-color: #0056b3;"></div></div>

ID: 9b5b23fc

For  $x > 0$ , the function  $f$  is defined as follows:

$f(x)$  equals 201% of  $x$

Which of the following could describe this function?

- A. Decreasing exponential
- B. Decreasing linear
- C. Increasing exponential
- D. Increasing linear

# Question ID 4e527894

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: 4e527894

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.  $\frac{12}{20}$

# Question ID 808f7d6c

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 808f7d6c

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

- A.  $8u$
- B.  $2u$
- C.  $u$
- D.  $\frac{1}{2}u$

# Question ID af142f8d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: af142f8d

	Amount invested	Balance increase
Account A	\$500	6% annual interest
Account B	\$1,000	\$25 per year

Two investments were made as shown in the table above. The interest in Account A is compounded once per year. Which of the following is true about the investments?

- A. Account A always earns more money per year than Account B.
- B. Account A always earns less money per year than Account B.
- C. Account A earns more money per year than Account B at first but eventually earns less money per year.
- D. Account A earns less money per year than Account B at first but eventually earns more money per year.

## Question ID 566759ef

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 50%; background-color: #e0e0e0; height: 10px;"></div>

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

## Question ID 6e4a60dd

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 6e4a60dd

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

# Question ID ad1d6adb

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 20%; background-color: #0056b3; height: 10px;"></div> <div style="width: 20%; background-color: #0056b3; height: 10px;"></div> <div style="width: 60%; background-color: #e0e0e0; height: 10px;"></div>

ID: ad1d6adb

The number of coins in a collection increased from **9** to **90**. What was the percent increase in the number of coins in this collection?

- A. 10%
- B. 81%
- C. 90%
- D. 900%

## Question ID 040f2a84

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 100px; height: 10px; background-color: #0056b3;"></div>

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**)

# Question ID 9ee22c16

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Inference from sample statistics and margin of error	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: 9ee22c16

A random sample of 400 town voters were asked if they plan to vote for Candidate A or Candidate B for mayor. The results were sorted by gender and are shown in the table below.

	Plan to vote for Candidate A	Plan to vote for Candidate B
Female	202	20
Male	34	144

The town has a total of 6,000 voters. Based on the table, what is the best estimate of the number of voters who plan to vote for Candidate A?

## Question ID 41b71b4e

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 41b71b4e

What number is 20% greater than 60?

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

# Question ID eaab8bc1

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: eaab8bc1

Out of 300 seeds that were planted, 80% sprouted. How many of these seeds sprouted?

## Question ID 46b2e169

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: 46b2e169

A box contains **13** red pens and **37** blue pens. If one of these pens is selected at random, what is the probability of selecting a red pen? (Express your answer as a decimal or fraction, not as a percent.)

## Question ID 8213b1b3

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 100px; height: 10px; background-color: #0056b3;"></div>

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?

## Question ID f8696cd8

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 20%; background-color: #003366; height: 10px;"></div> <div style="width: 20%; background-color: #003366; height: 10px;"></div> <div style="width: 60%; background-color: #cccccc; height: 10px;"></div>

ID: f8696cd8

	Human Resources	Accounting
Bachelor's degree	4	3
Master's degree	2	6

The table above shows the number of people who work in the Human Resources and Accounting departments of a company and the highest level of education they have completed. A person from one of these departments is to be chosen at random. If the person chosen works in the Human Resources department, what is the probability that the highest level of education the person completed is a master's degree?

A.  $\frac{2}{15}$

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

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

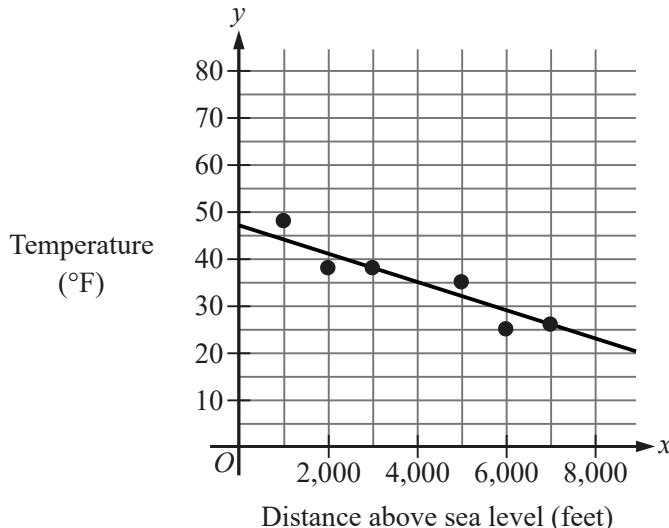
D.  $\frac{8}{15}$

# Question ID bc59c2d9

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: bc59c2d9

The scatterplot shows the temperature, in degrees Fahrenheit ( $^{\circ}\text{F}$ ), and the distance above sea level, in feet, measured at 6 locations on Mount Jefferson. A line of best fit is also shown.



At a distance of 4,000 feet above sea level, what is the temperature, in  $^{\circ}\text{F}$ , predicted by the line of best fit?

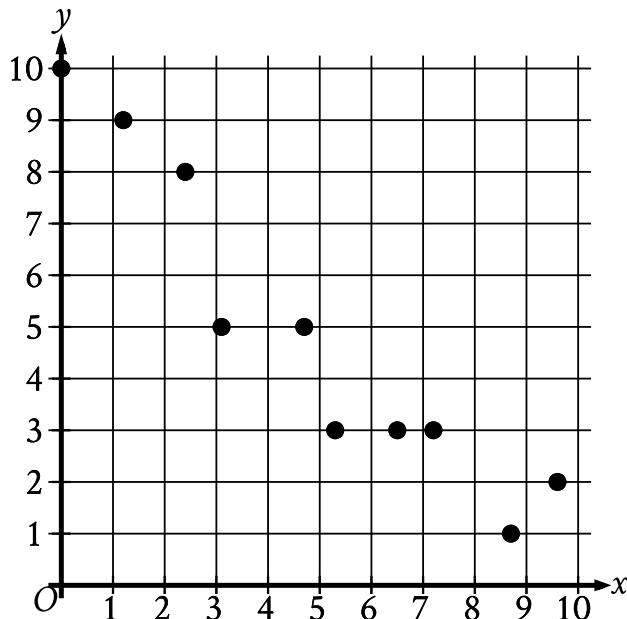
- A. 47
- B. 35
- C. 25
- D. 0

# Question ID 50b2807e

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

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.  $y = 9.4 - 0.9x$

# Question ID 34f8cd89

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 100px; height: 10px; background-color: #0056b3;"></div>

ID: 34f8cd89

37% of the items in a box are green. Of those, 37% are also rectangular. Of the green rectangular items, 42% are also metal. Which of the following is closest to the percentage of the items in the box that are not rectangular green metal items?

- A. 1.16%
- B. 57.50%
- C. 94.25%
- D. 98.84%

# Question ID 6fca0144

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Evaluating statistical claims: Observational studies and experiments	<div style="width: 75%; background-color: #005a99; height: 10px;"></div>

ID: 6fca0144

For a baobab tree habitat in South Africa, a scientist randomly selected **50** baobab trees that were **17** years old and randomly assigned them to two groups. Each group was subjected to a different watering pattern for **2** consecutive years to observe whether the watering pattern affects the trees' growth rate. Based on the design of the study, what is the largest group to which these results can be applied?

- A. All the **50** baobab trees that were selected in this habitat
- B. All the baobab trees that were **19** years old in this habitat
- C. All the baobab trees that were **17** years old in South Africa
- D. All the baobab trees that were **17** years old in this habitat

# Question ID 20b69297

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: 20b69297

Anita created a batch of green paint by mixing 2 ounces of blue paint with 3 ounces of yellow paint. She must mix a second batch using the same ratio of blue and yellow paint as the first batch. If she uses 5 ounces of blue paint for the second batch, how much yellow paint should Anita use?

- A. Exactly 5 ounces
- B. 3 ounces more than the amount of yellow paint used in the first batch
- C. 1.5 times the amount of yellow paint used in the first batch
- D. 1.5 times the amount of blue paint used in the second batch

# Question ID 94237701

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

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

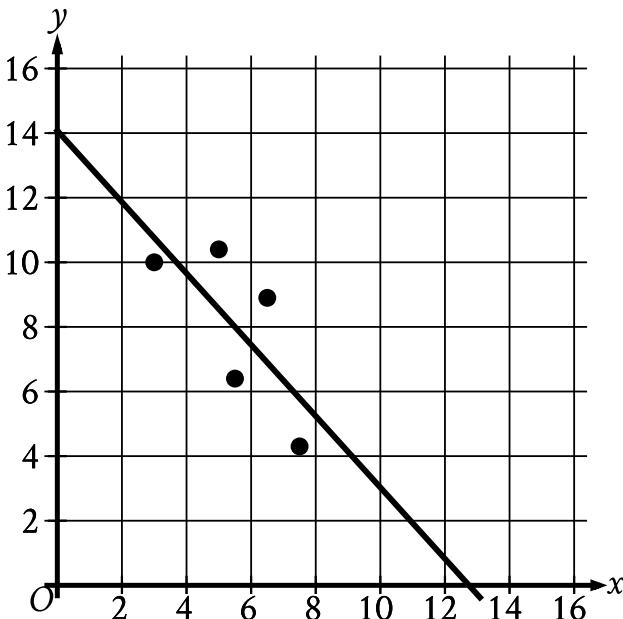
The median of the scores for group B is how much greater than the median of the scores for group A?

# Question ID 24a1e6a7

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: 24a1e6a7

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



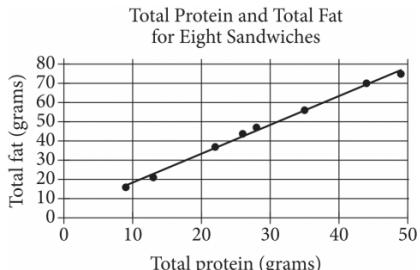
Which of the following is closest to the slope of this line of best fit?

- A. -3.3
- B. -1.1
- C. 1.1
- D. 3.3

# Question ID 9d95e7ad

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 150px; height: 10px; background-color: #0056b3;"></div> <div style="width: 150px; height: 10px; background-color: #0056b3;"></div>

ID: 9d95e7ad



The scatterplot above shows the numbers of grams of both total protein and total fat for eight sandwiches on a restaurant menu. The line of best fit for the data is also shown. According to the line of best fit, which of the following is closest to the predicted increase in total fat, in grams, for every increase of 1 gram in total protein?

- A. 2.5
- B. 2.0
- C. 1.5
- D. 1.0

## Question ID 11b06e35

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: 11b06e35

The density of a certain solid substance is **813** kilograms per cubic meter. A sample of this substance is in the shape of a cube, where each edge has a length of **0.60** meters. To the nearest whole number, what is the mass, in kilograms, of this sample?

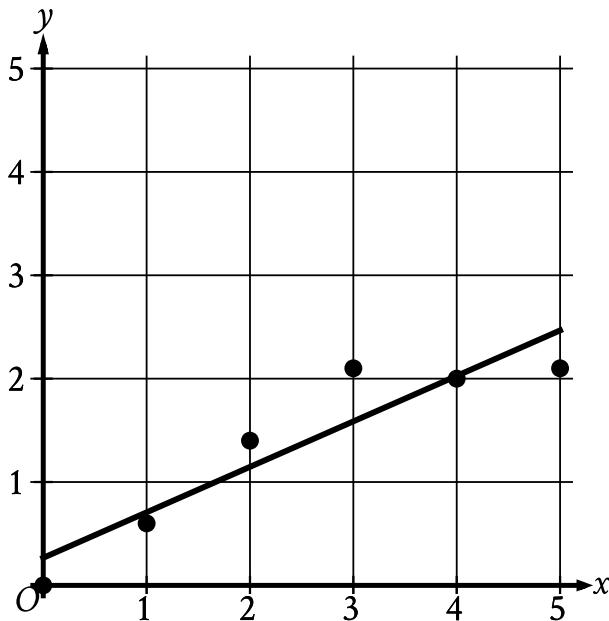
- A. **176**
- B. **488**
- C. **1,355**
- D. **3,764**

# Question ID 39aa146d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #cccccc; height: 10px;"></div> <div style="width: 25%; background-color: #cccccc; height: 10px;"></div>

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.  $2.27$

## Question ID 58171b5e

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: 58171b5e

Each year, the value of an investment increases by **0.49%** of its value the previous year. Which of the following functions best models how the value of the investment changes over time?

- A. Decreasing exponential
- B. Decreasing linear
- C. Increasing exponential
- D. Increasing linear

## Question ID d7a3179d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: d7a3179d

How many yards are equivalent to 1,116 inches? (**1 yard = 36 inches**)

## Question ID d6456c7a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: d6456c7a

A certain park has an area of **11,863,808** square yards. What is the area, in square miles, of this park? (**1 mile = 1,760 yards**)

- A. **1.96**
- B. **3.83**
- C. **3,444.39**
- D. **6,740.8**

## Question ID 4347a032

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: 4347a032

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

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

## Question ID 51c9d65f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 50%; background-color: #e0e0e0; height: 10px;"></div>

ID: 51c9d65f

For a certain rectangular region, the ratio of its length to its width is **35** to **10**. If the width of the rectangular region increases by **7** units, how must the length change to maintain this ratio?

- A. It must decrease by **24.5** units.
- B. It must increase by **24.5** units.
- C. It must decrease by **7** units.
- D. It must increase by **7** units.

# Question ID 763e6769

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: 763e6769

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.  $168t$

# Question ID 25faa756

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: 25faa756

The number  $a$  is 60% greater than the positive number  $b$ . The number  $c$  is 45% less than  $a$ . The number  $c$  is how many times  $b$ ?

## Question ID ad911622

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

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**?

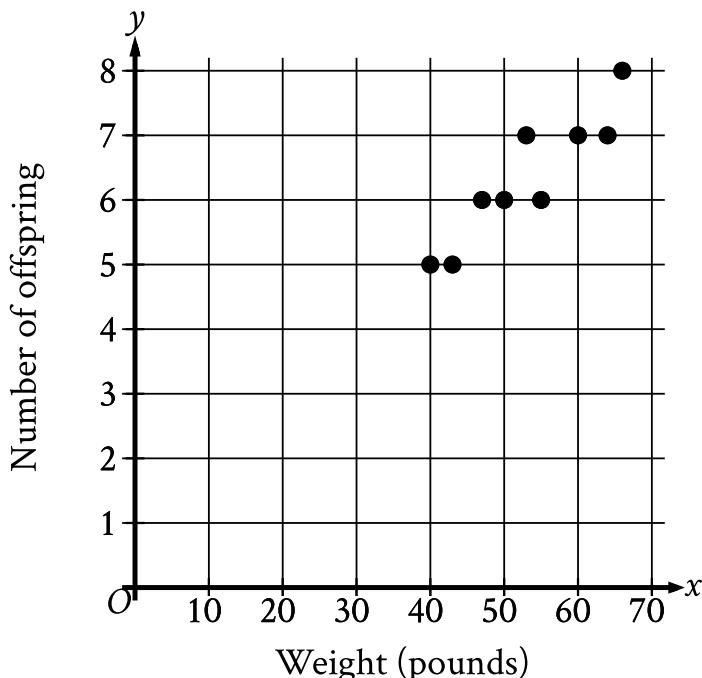
- A. **124.28%**
- B. **140.28%**
- C. **151.00%**
- D. **209.72%**

# Question ID 8d63b6f1

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: 8d63b6f1

The scatterplot shows the relationship between the weight, in pounds, of each of 9 female gray wolves on April 30 and the number of offspring each gray wolf produced.



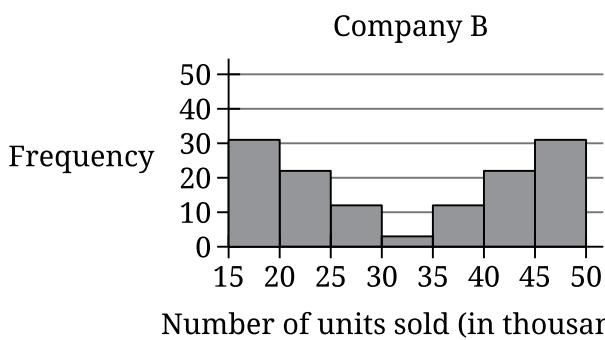
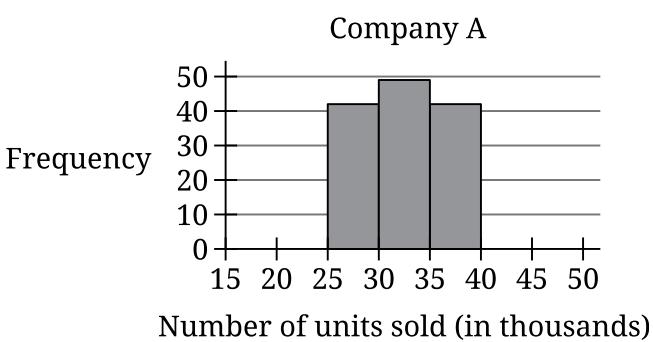
How many offspring did the **50**-pound gray wolf produce?

- A. 8
- B. 7
- C. 6
- D. 5

# Question ID 25fc031a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 20%; background-color: #003366; height: 10px;"></div> <div style="width: 20%; background-color: #003366; height: 10px;"></div> <div style="width: 60%; background-color: #cccccc; height: 10px;"></div>

ID: 25fc031a



The histograms summarize the distributions of number of units sold, in thousands, for company A and company B. Which statement best compares the standard deviations of number of units sold for these companies?

- A. The standard deviation of number of units sold for company A is less than the standard deviation of number of units sold for company B.
- B. The standard deviation of number of units sold for company A is greater than the standard deviation of number of units sold for company B.
- C. The standard deviation of number of units sold for company A is equal to the standard deviation of number of units sold for company B.
- D. There is not enough information to compare the standard deviations.

## Question ID d72a2b4d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 20%; background-color: #0056b3; height: 10px;"></div> <div style="width: 20%; background-color: #0056b3; height: 10px;"></div> <div style="width: 60%; background-color: #e0e0e0; height: 10px;"></div>

ID: d72a2b4d

In March, the price of a collectible card was **\$15.50**. In April, the price of the collectible card was **\$17.36**. The price of the collectible card in April was  $p\%$  of the price of the collectible card in March. What is the value of  $p$ ?

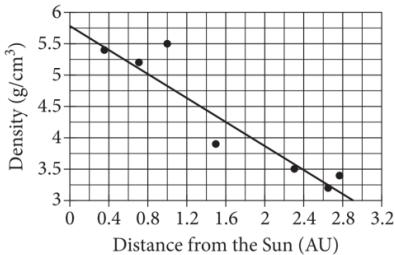
- A. 12
- B. 88
- C. 112
- D. 188

# Question ID cf0ae57a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: cf0ae57a

Distance and Density of Planetoids in the Inner Solar System



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

# Question ID 4e375d1f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 4e375d1f

How many meters are equivalent to 2,300 centimeters? (100 centimeters = 1 meter)

- A. 0.043
- B. 23
- C. 2,400
- D. 230,000

# Question ID 771ee744

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 771ee744

There are **320** marbles in a container. Of these marbles, **10%** are red. How many marbles in the container are red?

- A. **32**
- B. **288**
- C. **320**
- D. **352**

## Question ID e9ed719f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: e9ed719f

The table summarizes the distribution of color and shape for **100** tiles of equal area.

	Red	Blue	Yellow	Total
Square	10	20	25	55
Pentagon	20	10	15	45
Total	30	30	40	100

If one of these tiles is selected at random, what is the probability of selecting a red tile? (Express your answer as a decimal or fraction, not as a percent.)

# Question ID 85939da5

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Inference from sample statistics and margin of error	<div style="width: 30%; background-color: #0056b3; height: 10px;"></div> <div style="width: 30%; background-color: #0056b3; height: 10px;"></div> <div style="width: 30%; background-color: #0056b3; height: 10px;"></div>

ID: 85939da5

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
<b>Total</b>	<b>415</b>	<b>384</b>	<b>799</b>

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. Based on the data from the study, an estimate of the percent of US teens who are heavy texters is 30% and the associated margin of error is 3%. Which of the following is a correct statement based on the given margin of error?

- A. Approximately 3% of the teens in the study who are classified as heavy texters are not really heavy texters.
- B. It is not possible that the percent of all US teens who are heavy texters is less than 27%.
- C. The percent of all US teens who are heavy texters is 33%.
- D. It is doubtful that the percent of all US teens who are heavy texters is 35%.

# Question ID 3c8fdc40

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: 3c8fdc40

A printer produces posters at a constant rate of **42** posters per minute. At what rate, in posters per hour, does the printer produce the posters?

# Question ID eccbf957

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: eccbf957

Each face of a fair 14-sided die is labeled with a number from 1 through 14, with a different number appearing on each face. If the die is rolled one time, what is the probability of rolling a 2?

- A.  $\frac{1}{14}$
- B.  $\frac{2}{14}$
- C.  $\frac{12}{14}$
- D.  $\frac{13}{14}$

# Question ID affb2315

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Inference from sample statistics and margin of error	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: affb2315

There are **55** students in Spanish club. A sample of the Spanish club students was selected at random and asked whether they intend to enroll in a new study program. Of those surveyed, **20%** responded that they intend to enroll in the study program. Based on this survey, which of the following is the best estimate of the total number of Spanish club students who intend to enroll in the study program?

- A. **11**
- B. **20**
- C. **44**
- D. **55**

## Question ID 954943a4

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

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.  $p = (1.05)^x$

## Question ID 1baffbcf

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 30%; background-color: #0056b3; height: 10px;"></div> <div style="width: 30%; background-color: #0056b3; height: 10px;"></div> <div style="width: 30%; background-color: #0056b3; height: 10px;"></div>

ID: 1baffbcf

The expression  $0.35x$  represents the result of decreasing a positive quantity  $x$  by what percent?

- A. 3.5%
- B. 35%
- C. 6.5%
- D. 65%

# Question ID a5b069b4

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 50%; background-color: #e0e0e0; height: 10px;"></div>

ID: a5b069b4

4, 10, 18, 4, 4, 5, 6, 5

What is the median of the data set shown?

- A. 4
- B. 5
- C. 7
- D. 14

# Question ID b1b5300b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #005599; height: 10px;"></div> <div style="width: 50%; background-color: #CCCCCC; height: 10px;"></div>

ID: b1b5300b

Prices of 14 Different Cars

Type of car	Priced at no more than \$25,000	Priced greater than \$25,000	Total
Nonhybrid	5	3	8
Hybrid	2	4	6
Total	7	7	14

The table above shows information about 14 cars listed for sale on an auto dealership's website. If one of the cars listed for sale is selected at random, what is the probability that the car selected will be a hybrid car priced at no more than \$25,000 ?

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

B.  $\frac{2}{7}$

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

D.  $\frac{4}{7}$

## Question ID d28c29e1

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 50%; background-color: #e0e0e0; height: 10px;"></div>

ID: d28c29e1

The International Space Station orbits Earth at an average speed of 4.76 miles per second. What is the space station's average speed in miles per hour?

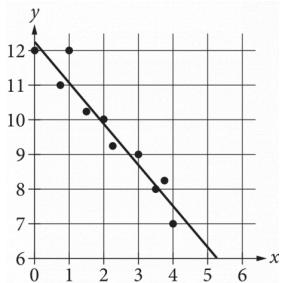
- A. 285.6
- B. 571.2
- C. 856.8
- D. 17,136.0

# Question ID 1adb39f0

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: 1adb39f0

The scatterplot shows the relationship between two variables,  $x$  and  $y$ . A line of best fit for the data is also shown. Which of the following is closest to the difference between the  $y$ -coordinate of the data point with  $x = 1$  and the  $y$ -value predicted by the line of best fit at  $x = 1$ ?



- A. 1
- B. 2
- C. 5
- D. 12

## Question ID 3f5398a6

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

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

## Question ID b4912cc5

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 50%; background-color: #e0e0e0; height: 10px;"></div>

ID: b4912cc5

The population density of Iceland, in people per square kilometer of land area, increased from 2.5 in 1990 to 3.3 in 2014. During this time period, the land area of Iceland was 100,250 square kilometers. By how many people did Iceland's population increase from 1990 to 2014?

- A. 330,825
- B. 132,330
- C. 125,312
- D. 80,200

# Question ID f890dc20

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: f890dc20

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

What is the median of the seven data values shown?

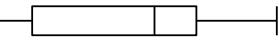
- A. 2
- B. 3
- C. 4
- D. 9

## Question ID d3b9c8d8

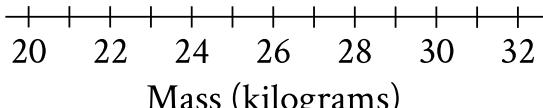
Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 75%; height: 10px; background-color: #0056b3;"></div>

ID: d3b9c8d8

Group 1



Group 2



Mass (kilograms)

The box plots summarize the masses, in kilograms, of two groups of gazelles. Based on the box plots, which of the following statements must be true?

- A. The mean mass of group 1 is greater than the mean mass of group 2.
- B. The mean mass of group 1 is less than the mean mass of group 2.
- C. The median mass of group 1 is greater than the median mass of group 2.
- D. The median mass of group 1 is less than the median mass of group 2.

# Question ID 65c49824

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 75%; background-color: #005a9f; height: 10px;"></div>

ID: 65c49824

A school district is forming a committee to discuss plans for the construction of a new high school. Of those invited to join the committee, 15% are parents of students, 45% are teachers from the current high school, 25% are school and district administrators, and the remaining 6 individuals are students. How many more teachers were invited to join the committee than school and district administrators?

# Question ID 825b7490

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: 825b7490

The ratio **140** to  $m$  is equivalent to the ratio **4** to **28**. What is the value of  $m$ ?

# Question ID 86636d8f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: 86636d8f

A customer spent **\$27** to purchase oranges at **\$3** per pound. How many pounds of oranges did the customer purchase?

# Question ID fe4c1c9e

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: fe4c1c9e

A mechanical device in a workshop produces items at a constant rate of **60** items per hour. At this rate, how many items will the mechanical device produce in **3** hours?

# Question ID 1ea09200

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Evaluating statistical claims: Observational studies and experiments	<div style="width: 75%; background-color: #005a9f; height: 10px;"></div>

ID: 1ea09200

A sample of 40 fourth-grade students was selected at random from a certain school.

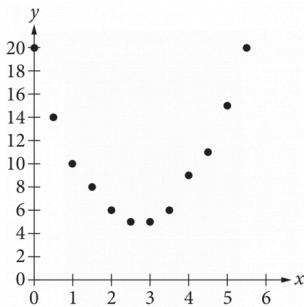
The 40 students completed a survey about the morning announcements, and 32 thought the announcements were helpful. Which of the following is the largest population to which the results of the survey can be applied?

- 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

# Question ID 82aaa0a1

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: 82aaa0a1



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

## Question ID 37930b2a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Evaluating statistical claims: Observational studies and experiments	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: 37930b2a

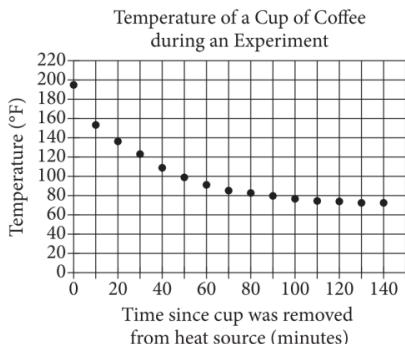
Residents of a town were surveyed to determine whether they are satisfied with the concession stand at the local park. A random sample of 200 residents was selected. All 200 responded, and 87% said they are satisfied. Based on this information, which of the following statements must be true?

- I. Of all the town residents, 87% would say they are satisfied with the concession stand at the local park.
  - II. If another random sample of 200 residents were surveyed, 87% would say they are satisfied.
- A. Neither
- B. I only
- C. II only
- D. I and II

# Question ID 83272c51

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: 83272c51



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 (°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

## Question ID 3310c2ab

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 50%; background-color: #e0e0e0; height: 10px;"></div>

ID: 3310c2ab

How many fluid ounces are equivalent to **76** quarts? (8 fluid ounces = 1 cup and 4 cups = 1 quart)

# Question ID 4c774b00

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #005599; height: 10px;"></div> <div style="width: 50%; background-color: #CCCCCC; height: 10px;"></div>

ID: 4c774b00

Ages of 20 Students Enrolled in a College Class

Age	Frequency
18	6
19	5
20	4
21	2
22	1
23	1
30	1

The table above shows the distribution of ages of the 20 students enrolled in a college class. Which of the following gives the correct order of the mean, median, and mode of the ages?

- A. mode < median < mean
- B. mode < mean < median
- C. median < mode < mean
- D. mean < mode < median

# Question ID 1353b86e

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

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.  $\frac{18}{40}$

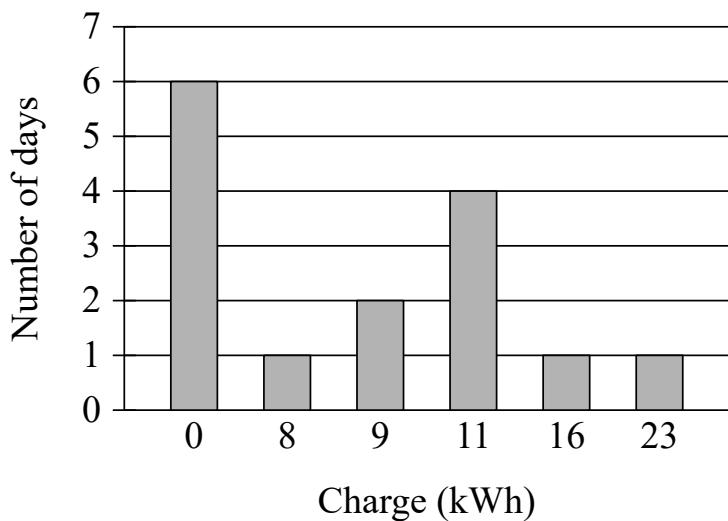
D.  $\frac{10}{40}$

# Question ID 29fa7970

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: 29fa7970

The bar graph summarizes the charge, in kilowatt-hours (**kWh**), a battery received each day for **15** days.



For how many of these **15** days did the battery receive a charge of **0 kWh**?

- A. 0
- B. 1
- C. 4
- D. 6

# Question ID d89c1513

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: d89c1513

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.  $\frac{50}{135}$

# Question ID 52f9a246

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: 52f9a246

4, 4, 4, 4, 8, 8, 8, 13, 13

Which frequency table correctly represents the data listed?

A.

Number	Frequency
4	4
8	3
13	2

B.

Number	Frequency
4	4
3	8
2	13

C.

Number	Frequency
4	16
8	24
13	26

D.

Number	Frequency
16	4
24	8
26	13

# Question ID 000259aa

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: 000259aa

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

# Question ID a456cf2

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #005599; height: 10px;"></div> <div style="width: 50%; background-color: #CCCCCC; height: 10px;"></div>

ID: a456cf2

Data value	Frequency
6	3
7	3
8	8
9	8
10	9
11	11
12	9
13	0
14	6

The frequency table summarizes the **57** data values in a data set. What is the maximum data value in the data set?

# Question ID e1ad3d41

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: e1ad3d41

Coat color	Eye color		
	Deep blue	Light brown	Total
Cream-tortoiseshell	16	16	32
Chocolate	12	4	16
Total	28	20	48

The data on the coat color and eye color for 48 Himalayan kittens available for adoption were collected and summarized in the table above. What fraction of the chocolate-colored kittens has deep blue eyes?

A.  $\frac{12}{48}$

B.  $\frac{12}{28}$

C.  $\frac{16}{32}$

D.  $\frac{12}{16}$

# Question ID 3726e079

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 50%; background-color: #e0e0e0; height: 10px;"></div>

ID: 3726e079

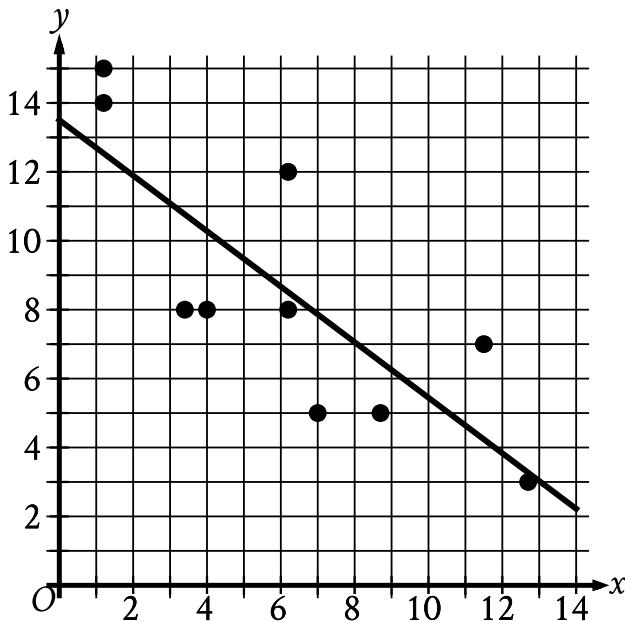
If  $\frac{x}{y} = 4$  and  $\frac{24x}{ny} = 4$ , what is the value of  $n$ ?

# Question ID 8baf2118

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: 8baf2118

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



Which of the following equations best represents the line of best fit shown?

- A.  $y = 13.5 + 0.8x$
- B.  $y = 13.5 - 0.8x$
- C.  $y = -13.5 + 0.8x$
- D.  $y = -13.5 - 0.8x$

# Question ID 05195d8a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 20%; background-color: #0056b3; height: 10px;"></div> <div style="width: 20%; background-color: #0056b3; height: 10px;"></div> <div style="width: 60%; background-color: #e0e0e0; height: 10px;"></div>

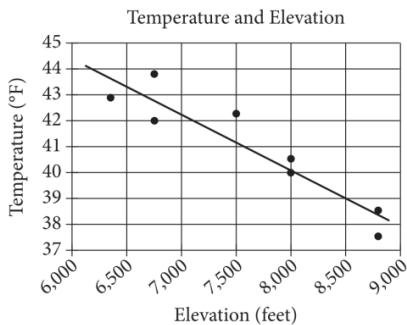
ID: 05195d8a

In a sample, 80% of the items are faulty. There are 88 faulty items in the sample. How many total items are in the sample?

# Question ID ac5b6558

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

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

# Question ID 46545dd6

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: 46545dd6

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.  $\frac{65}{75}$

## Question ID 58a71e06

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 58a71e06

Of 300,000 paper clips, 234,000 are size large. What percentage of the paper clips are size large?

- A. 22%
- B. 33%
- C. 66%
- D. 78%

## Question ID 4aaa9c42

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 100px; height: 10px; background-color: #0056b3;"></div>

ID: 4aaa9c42

The positive number  $a$  is 2,241% of the sum of the positive numbers  $b$  and  $c$ , and  $b$  is 83% of  $c$ . What percent of  $b$  is  $a$ ?

- A. 23.24%
- B. 49.41%
- C. 2,324%
- D. 4,941%

## Question ID 16cea46c

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: 16cea46c

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

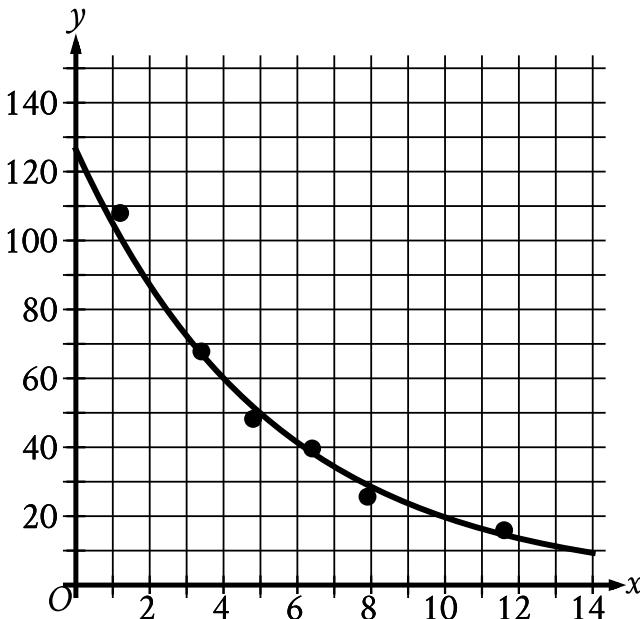
A total of 25 men registered for singing lessons. The frequency table shows how many of these singers have certain voice types. If one of these singers is selected at random, what is the probability he is a baritone?

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

# Question ID fb866265

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	<div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 100px; height: 10px; background-color: #0056b3;"></div> <div style="width: 100px; height: 10px; background-color: #0056b3;"></div>

ID: fb866265



The scatterplot shows the relationship between two variables,  $x$  and  $y$ . An equation for the exponential model shown can be written as  $y = a(b)^x$ , where  $a$  and  $b$  are positive constants. Which of the following is closest to the value of  $b$ ?

- A. 0.83
- B. 1.83
- C. 18.36
- D. 126.35

# Question ID bd90f87e

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 25%; background-color: #0056b3;"></div> <div style="width: 75%; background-color: #e0e0e0;"></div> <div style="width: 75%; background-color: #e0e0e0;"></div>

ID: bd90f87e

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?

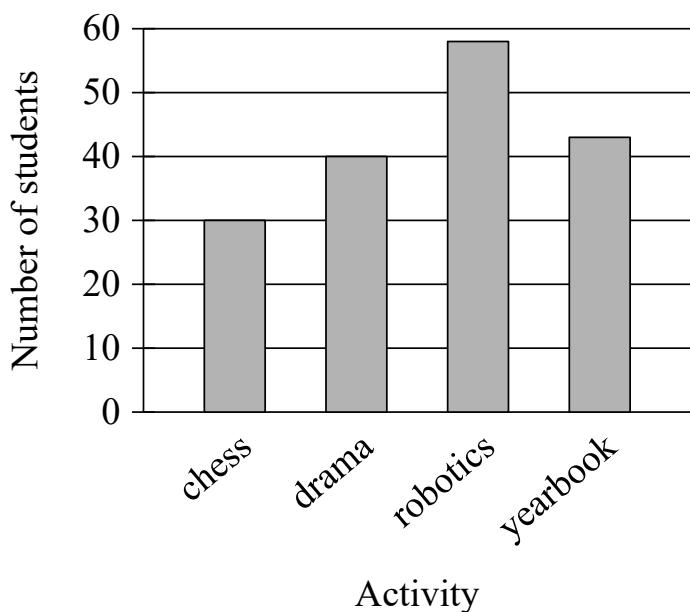
- A. 30%
- B. 60%
- C. 62.5%
- D. 120%

# Question ID 15d87c0f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: 15d87c0f

The bar graph shows the distribution of the number of students in each of four extracurricular activities at a high school.



How many more students are in drama than in chess?

- A. 10
- B. 30
- C. 40
- D. 70

## Question ID 312ba47c

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #0056b3; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div> <div style="width: 75%; background-color: #e0e0e0; height: 10px;"></div>

ID: 312ba47c

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

## Question ID 0ea56bb2

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 75%; background-color: #0056b3; height: 10px;"></div>

ID: 0ea56bb2

Year	Subscriptions sold
2012	5,600
2013	5,880

The manager of an online news service received the report above on the number of subscriptions sold by the service. The manager estimated that the percent increase from 2012 to 2013 would be double the percent increase from 2013 to 2014. How many subscriptions did the manager expect would be sold in 2014?

- A. 6,020
- B. 6,027
- C. 6,440
- D. 6,468

## Question ID 90eed2e5

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Inference from sample statistics and margin of error	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 75%; background-color: #cccccc; height: 10px;"></div>

ID: 90eed2e5

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

# Question ID 8e528129

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 25%; background-color: #003366; height: 10px;"></div> <div style="width: 50%; background-color: #cccccc; height: 10px;"></div>

ID: 8e528129

Pure beeswax has a density of 0.555 ounce per cubic inch. An online company sells pure beeswax at a price of \$8.00 per ounce. What is the selling price, in dollars per cubic inch, for pure beeswax purchased from this company?

# Question ID 15617f62

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

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**

# Question ID 8736334b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

ID: 8736334b

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

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

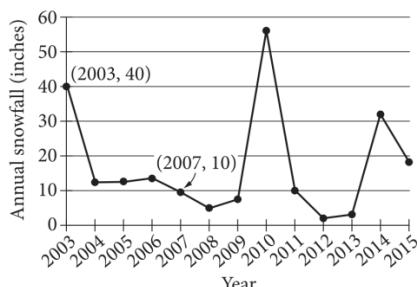
Data set A and data set B each contain 5 numbers. If the mean of data set A is equal to the mean of data set B, what is the value of x ?

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

# Question ID 0231050d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	<div style="width: 100px; height: 10px; background-color: #0056b3;"></div>

ID: 0231050d



The line graph shows the total amount of snow, in inches, recorded each year in Washington, DC, from 2003 to 2015. If  $p\%$  is the percent decrease in the annual snowfall from 2003 to 2007, what is the value of  $p$ ?

# Question ID be35c117

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	<div style="width: 25%; background-color: #002B36; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div> <div style="width: 75%; background-color: #D9D9D9; height: 10px;"></div>

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**