Question ID 7ce2830a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Evaluating statistical claims: Observational studies and experiments	■■■

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	■□□

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 642519d7

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Evaluating statistical claims: Observational studies and experiments	■■□

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?

I. Of all adults in the city, 78 percent are satisfied with the quality of air in the city.

II. 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.

III. 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	■□□

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 28c6bd8c

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	■□□

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	■■□

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 6a715bed

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	■■■

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	■■□

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 c54b92a2

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	One-variable data: Distributions and measures of center and spread	■□□

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

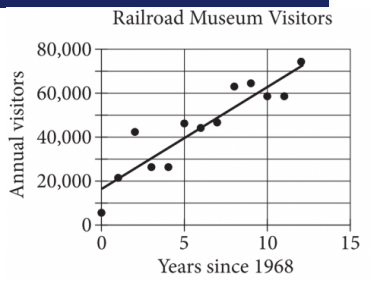
C. 4.5

D. 4.0

Question ID 3c5b19ef

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	■■□

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 96a45430

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	■■□

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 82dfb646

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Evaluating statistical claims: Observational studies and experiments	■□□

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	■■□

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 30db8f77

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Probability and conditional probability	■■□

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 3ac09984

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Ratios, rates, proportional relationships, and units	■□□

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

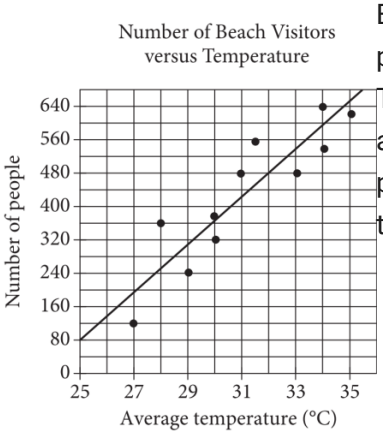
C. $5,625.00

D. $98,000.00

Question ID d0430601

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	■■■

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	■■□

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.

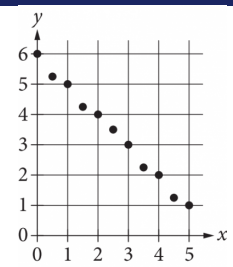
C. Both the means and the medians are different.

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	■□□

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 b2f6f17d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Percentages	■■□

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%

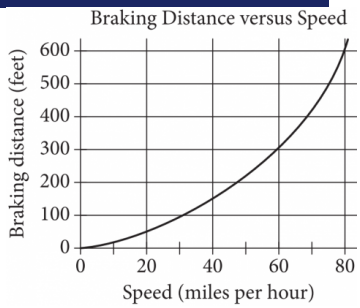
C. 5.2%

D. 5.4%

Question ID d6121490

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Problem-Solving and Data Analysis	Two-variable data: Models and scatterplots	■□□

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