Question ID 45cfb9de

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear inequalities in one or two variables	■■■

ID: 45cfb9de

3.1

Adam's school is a 20-minute walk or a 5-minute bus ride away from his house. The bus runs once every 30 minutes, and the number of minutes, *w*, that Adam waits for the bus varies between 0 and 30. Which of the following inequalities gives the values of *w* for which it would be faster for Adam to walk to school?

A. $w-5<20$

B. $w-5>20$

C. $w+5<20$

D. $w+5>20$

Question ID 95cad55f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear inequalities in one or two variables	■■■

ID: 95cad55f

3.2

A laundry service is buying detergent and fabric softener from its supplier. The supplier will deliver no more than 300 pounds in a shipment. Each container of detergent weighs 7.35 pounds, and each container of fabric softener weighs 6.2 pounds. The service wants to buy at least twice as many containers of detergent as containers of fabric softener. Let d represent the number of containers of detergent, and let s represent the number of containers of fabric softener, where d and s are nonnegative integers. Which of the following systems of inequalities best represents this situation?

A. $7.35d + 6.2s \leq 300$
$d \geq 2s$

B. $7.35d + 6.2s \leq 300$
$2d \geq s$

C. $14.7d + 6.2s \leq 300$
$d \geq 2s$

D. $14.7d + 6.2s \leq 300$
$2d \geq s$

Question ID ee2f611f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear inequalities in one or two variables	■■■

ID: ee2f611f

3.3

A local transit company sells a monthly pass for $95 that allows an unlimited number of trips of any length. Tickets for individual trips cost $1.50, $2.50, or $3.50, depending on the length of the trip. What is the minimum number of trips per month for which a monthly pass could cost less than purchasing individual tickets for trips?

Question ID 6c71f3ec

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear inequalities in one or two variables	■■■

ID: 6c71f3ec

3.4

A salesperson's total earnings consist of a base salary of x dollars per year, plus commission earnings of 11% of the total sales the salesperson makes during the year. This year, the salesperson has a goal for the total earnings to be at least 3 times and at most 4 times the base salary. Which of the following inequalities represents all possible values of total sales s, in dollars, the salesperson can make this year in order to meet that goal?

A. $2x \leq s \leq 3x$

B. $\frac{2}{0.11}x \leq s \leq \frac{3}{0.11}x$

C. $3x \leq s \leq 4x$

D. $\frac{3}{0.11}x \leq s \leq \frac{4}{0.11}x$

Question ID 1a621af4

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear inequalities in one or two variables	■■■

ID: 1a621af4

3.5

A number x is at most 2 less than 3 times the value of y. If the value of y is -4, what is the greatest possible value of x?

Question ID 1035faea

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear inequalities in one or two variables	■■■

ID: 1035faea

3.6

A psychologist set up an experiment to study the tendency of a person to select the first item when presented with a series of items. In the experiment, 300 people were presented with a set of five pictures arranged in random order. Each person was asked to choose the most appealing picture. Of the first 150 participants, 36 chose the first picture in the set. Among the remaining 150 participants, p people chose the first picture in the set. If more than 20% of all participants chose the first picture in the set, which of the following inequalities best describes the possible values of p ?

A. $p > 0.20(300-36)$, where $p \leq 150$

B. $p > 0.20(300+36)$, where $p \leq 150$

C. $p-36 > 0.20(300)$, where $p \leq 150$

D. $p+36 > 0.20(300)$, where $p \leq 150$

Question ID 5bf5136d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear inequalities in one or two variables	■■■

ID: 5bf5136d 3.7

The triangle inequality theorem states that the sum of any two sides of a triangle must be greater than the length of the third side. If a triangle has side lengths of 6 and 12, which inequality represents the possible lengths, x, of the third side of the triangle?

A. $x < 18$

B. $x > 18$

C. $6 < x < 18$

D. $x < 6$ or $x > 18$

Question ID e8f9e117

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear inequalities in one or two variables	■■■

ID: e8f9e117

3.8

$$I = \frac{V}{R}$$

The formula above is Ohm's law for an electric circuit with current I, in amperes, potential difference V, in volts, and resistance R, in ohms. A circuit has a resistance of 500 ohms, and its potential difference will be generated by n six-volt batteries that produce a total potential difference of $6n$ volts. If the circuit is to have a current of no more than 0.25 ampere, what is the greatest number, n, of six-volt batteries that can be used?

Question ID 963da34c

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear inequalities in one or two variables	■■■

ID: 963da34c 3.9

A shipping service restricts the dimensions of the boxes it will ship for a certain type of service. The restriction states that for boxes shaped like rectangular prisms, the sum of the perimeter of the base of the box and the height of the box cannot exceed 130 inches. The perimeter of the base is determined using the width and length of the box. If a box has a height of 60 inches and its length is 2.5 times the width, which inequality shows the allowable width x, in inches, of the box?

A. $0 < x \leq 10$

B. $0 < x \leq 11\frac{2}{3}$

C. $0 < x \leq 17\frac{1}{2}$

D. $0 < x \leq 20$

Question ID b8e73b5b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear inequalities in one or two variables	■■■

ID: b8e73b5b

3.10

Ken is working this summer as part of a crew on a farm. He earned $8 per hour for the first 10 hours he worked this week. Because of his performance, his crew leader raised his salary to $10 per hour for the rest of the week. Ken saves 90% of his earnings from each week. What is the least number of hours he must work the rest of the week to save at least $270 for the week?

A. 38

B. 33

C. 22

D. 16

Question ID 830120b0

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear inequalities in one or two variables	■■■

ID: 830120b0 3.11

$$y > 2x - 1$$
$$2x > 5$$

Which of the following consists of the y-coordinates of all the points that satisfy the system of inequalities above?

A. $y > 6$

B. $y > 4$

C. $y > \frac{5}{2}$

D. $y > \frac{3}{2}$