1

A certain homeowner uses a gas edger to clean up his lawn every time he mows. If the edger uses 160 milliliters of fuel each time, what is the maximum number of times the homeowner can edge his lawn with 8 liters of fuel? (1 liter = 1,000 milliliters)

A)   5

B)   50

C)   100

D) 1,000

2

Assignment Choice for Two Physics Classes

	Dr. Soper	Mr. Coelho	Total
Lab Report Only	17	21	38
Lab Report and Final Exam	3	2	5
Total	20	23	43

The table above shows the number of students who chose to be graded on lab reports only or on lab reports and final exams in Dr. Soper's and Mr. Coelho's physics classes. What fraction of the students in Dr. Soper's class chose to be graded on the lab report and final exam?

A) $\dfrac{3}{43}$

B) $\dfrac{5}{43}$

C) $\dfrac{3}{20}$

D) $\dfrac{3}{5}$

3

$$(4 - a^2) - (2a^2 - 6)$$

Which of the following expressions is equivalent to the one above?

A) $a^2 - 2$

B) $a^2 + 10$

C) $-3a^2 - 2$

D) $-3a^2 + 10$

4

The ordered pair $(3, -1)$ satisfies which of the following inequalities?

    I. $x + 3y > 0$

    II. $2x + 3y > 2$

    III. $x + y < 0$

A) I only

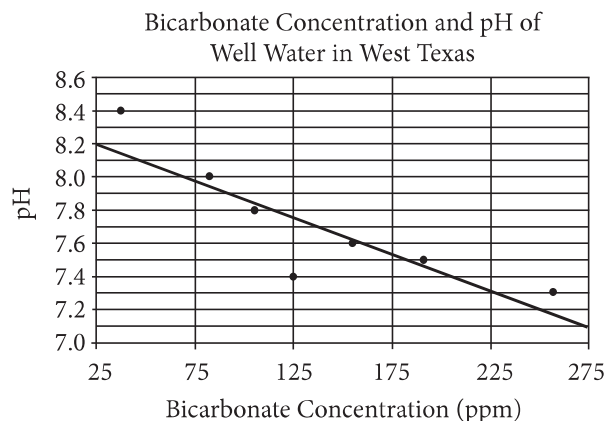B) II only

C) I and III only

D) II and III only

5

A psychology student randomly selected 300 people from a group of people who indicated that they preferred to work alone. Those 300 people were given a task to work on individually and then asked whether they were happy or unhappy while doing the task. Of those surveyed, 5% stated they were unhappy while doing the task. Which of the following inferences can appropriately be drawn from this survey result?

A) Few people who prefer working alone will be unhappy doing this task.

B) Few people who do not prefer working alone will be happy doing this task.

C) Less than 5% of people will be happy doing this task if they do not work alone.

D) Less than 5% of people will be unhappy doing this task if they work alone.

Questions 6 and 7 refer to the following information.

Bicarbonate Concentration and pH of Well Water in West Texas

The scatterplot above shows the pH of seven well water samples in West Texas with respect to the bicarbonate concentration in ppm (parts per million). The line of best fit is also shown.

6

According to the scatterplot, which of the following statements about the relationship between a well's pH and its bicarbonate concentration is true?

A) A well with half as much bicarbonate as another well will have a pH twice that of the other well.

B) Wells that have more bicarbonate tend to have higher pH.

C) Wells that have more bicarbonate tend to have lower pH.

D) The bicarbonate concentration of the well water is unrelated to its pH.

7

A new well is discovered in West Texas with a bicarbonate concentration of 225 ppm. According to the line of best fit, which of the following best approximates the pH of the well water?

A) 7.1

B) 7.3

C) 7.4

D) 8.4

▲

8

$$25 = (ky - 1)^2$$

In the equation above, $y = -2$ is one solution. If k is a constant, what is a possible value of k ?

A) −13

B) −3

C) 0

D) 5

9

Andrew works out for 30 minutes every other day. If he spends 35% of his workout time one day waiting for the weight rack, how many seconds of that day's workout did he spend waiting for the weight rack?

A) 630

B) 35

C) 21

D) 10.5

10

If $8x - 8yz + 2 = 74$, what is the value of $x - yz$?

A) 2

B) 6

C) 9

D) 16