

# Real-World Math Drill

Now it's time to try out what you have learned on some practice questions. Try the following problems and then check your answers in Part V.

1 of 12

Sadie sells half the paintings in her collection, gives one-third of her paintings to friends, and keeps the remaining paintings for herself. What fraction of her collection does Sadie keep?

Click on each box and type in a number.  
Backspace to erase.

2 of 12

$$5x - 2y = 2y - 3x$$

Quantity A

$x$

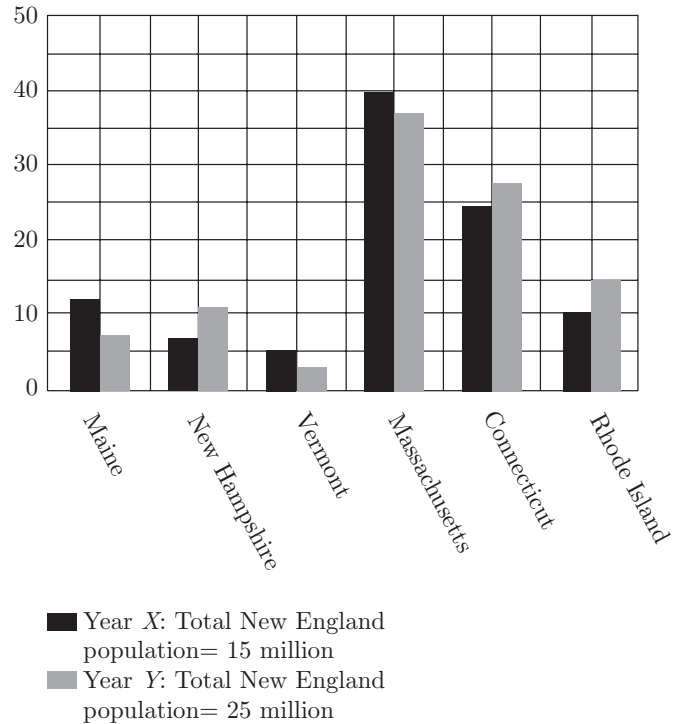
Quantity B

$y$

- Quantity A is greater.
- Quantity B is greater.
- The two quantities are equal.
- The relationship cannot be determined from the information given.

Questions 3 through 5 refer to the following graph.

PERCENT OF POPULATION IN NEW ENGLAND BY STATE IN YEAR X AND YEAR Y



3 of 12

If the six New England states are ranked by population in Year X and Year Y, how many states would have a different ranking from Year X to Year Y?

- None
- One
- Two
- Three
- Four

4 of 12

In Year  $X$ , the population of Massachusetts was approximately what percent of the population of Vermont?

- 50%
- 120%
- 300%
- 800%
- 1,200%

5 of 12

By approximately how much did the population of Rhode Island increase from Year  $X$  to Year  $Y$ ?

- 750,000
- 1,250,000
- 1,500,000
- 2,250,000
- 3,375,000

6 of 12

A water jug with a capacity of 20 gallons is 20 percent full. At the end of every third day, water is added to the jug. If the amount of water added is equal to 50 percent of the water in the jug at the beginning of that day, how many days does it take for the jug to be at least 85% full?

- 4
- 6
- 12
- 15
- 20

7 of 12

Towns  $A$ ,  $B$ ,  $C$ , and  $D$  are all in the same voting district. Towns  $A$  and  $B$  have 3,000 people each who support referendum  $R$  and the referendum has an average (arithmetic mean) of 3,500 supporters in towns  $B$  and  $D$  and an average of 5,000 supporters in Towns  $A$  and  $C$ .

**Quantity A**

The average number of supporters of Referendum  $R$  in Towns  $C$  and  $D$

**Quantity B**

The average number of supporters of Referendum  $R$  in Towns  $B$  and  $C$

- Quantity A is greater.
- Quantity B is greater.
- The two quantities are equal.
- The relationship cannot be determined from the information given.

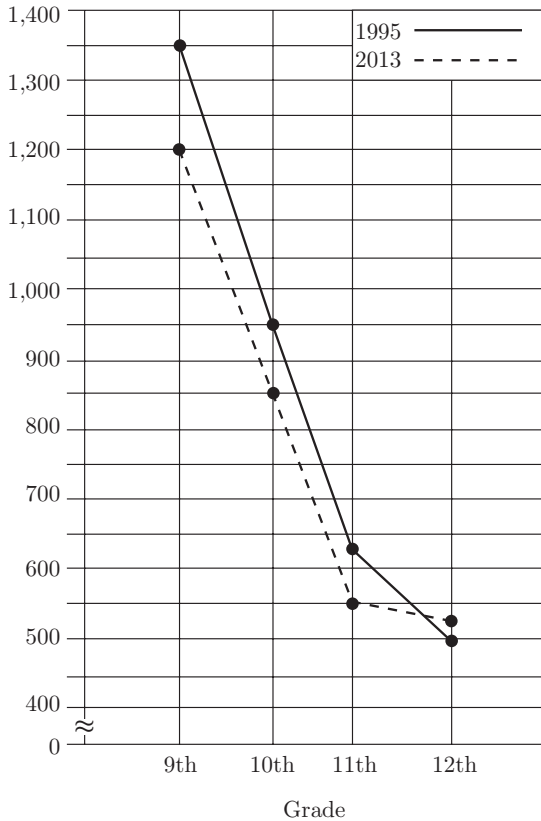
8 of 12

A company paid \$500,000 in merit raises to employees whose performances were rated  $A$ ,  $B$ , or  $C$ . Each employee rated  $A$  received twice the amount of the raise that was paid to each employee rated  $C$ ; and each employee rated  $B$  received one-and-a-half times the amount of the raise that was paid to each employee rated  $C$ . If 50 workers were rated  $A$ , 100 were rated  $B$ , and 150 were rated  $C$ , how much was the raise paid to each employee rated  $A$ ?

- \$370
- \$625
- \$740
- \$1,250
- \$2,500

Questions 9 through 11 refer to the following graphs.

NUMBER OF STUDENTS IN GRADES 9 THROUGH 12 FOR SCHOOL DISTRICT X IN 1995 AND 2013



9 of 12

In 2013, the median reading test score for ninth-grade students was in which score range?

- Below 65 points
- 65–69 points
- 70–79 points
- 80–89 points
- 90–100 points

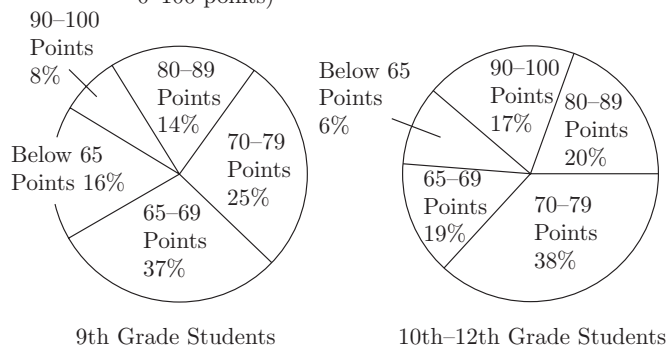
10 of 12

If the number of students in grades 9 through 12 in School District X in 1995 comprised 35 percent of the number of students in City Y in 1995, then approximately how many students were in City Y in 1995 ?

- 9,700
- 8,700
- 3,400
- 3,000
- 1,200

DISTRIBUTION OF READING TEST SCORES\* FOR SCHOOL DISTRICT X STUDENTS IN 2013

(\*Reading Test scores can range from 0–100 points)



11 of 12

Assume that all students in School District X took the reading test each year. In 2013, approximately how many more ninth-grade students had reading test scores in the 70–79 point range than in the 80–89 point range?

- 470
- 300
- 240
- 170
- 130

12 of 12

One ounce of Solution  $X$  contains only ingredients  $a$  and  $b$  in a ratio of  $2 : 3$ . One ounce of Solution  $Y$  contains only ingredients  $a$  and  $b$  in a ratio of  $1 : 2$ . If Solution  $Z$  is created by mixing solutions  $X$  and  $Y$  in a ratio of  $3 : 11$ , then 630 ounces of Solution  $Z$  contains how many ounces of  $a$  ?

- 68
- 73
- 89
- 219
- 236