

The admission fee at a small fair is \$1.50 for children and \$4.00 for adults. On a certain day, 2200 people enter the fair and \$5050 is collected. How many children and how many adults attended?

① $x = \#$ of children
 $y = \#$ of adults

② $1.50x + 4y = 5050$
 $x + y = 2200$

 $y = -x + 2200$

④ Final answer:
There are 1500 children
and 700 adults.

$$1.50x + 4(-x + 2200) = 5050$$
$$1.50x - 4x + 8800 = 5050$$

$$-2.5x = 5050 - 8800$$

$$\frac{-2.5x}{-2.5} = \frac{-3750}{-2.5}$$

← $x = 1500$

③ $y = -x + 2200$
 $y = -1500 + 2200$
 $y = 700$

Two small pitchers and one large pitcher can hold 8 cups of water. One large pitcher minus one small pitcher constitutes 2 cups of water. How many cups of water can each pitcher hold?



① $x = \#$ of cups in small pitcher
 $y = \#$ of cups in large pitcher

② $2x + y = 8$
 $y - x = 2$

→
$$\begin{array}{r} 2x + y = 8 \\ -x + y = 2 \\ \hline 3x + 0y = 6 \end{array}$$

$$\frac{3x}{3} = \frac{6}{3}$$

$$x = 2$$

③ $y - x = 2$
 $y - 2 = 2$
 $y = 4$

④ Small pitchers hold 2 cups + large pitchers hold 4 cups.

A test has twenty questions worth 100 points. The test consists of True/False questions worth 3 points each and multiple choice questions worth 11 points each. How many multiple choice questions are on the test?



① $x = \#$ of MC questions
 $y = \#$ of T/F questions

② $x + y = 20$

$$11x + 3y = 100$$

③ $x = 20 - y$

$$11x + 3y = 100$$

$$11(20 - y) + 3y = 100$$

$$220 - 11y + 3y = 100$$

$$220 - 8y = 100$$

$$-8y = 100 - 220$$

$$-8y = -120$$

$$\frac{-8y}{-8} = \frac{-120}{-8}$$

$$y = 15$$

④ $x + y = 20$
 $x + 15 = 20$

$$x = 5$$

⑤ 5 MC ?'s

4. The sum of two numbers is 48. One number is three times the other number.
Find the two numbers.

① $x =$ first number
 $y =$ second number

② $x + y = 48$
 $y = 3x$

③ $x + 3x = 48$
 $4x = 48$
 $x = 12$

$y = 3x$
 $y = 3(12)$
 $y = 36$

Two #'s are 12 and 36.