Chapter 7 Test Review

Sections 7.1-7.6

Numbers

Three times one number equals twice a second number. Twice the first number is three more than the second number. Find both numbers.

Answer

$3x = 2y$

$2x = y + 3$

The numbers are 6 and 9.

Solutions

A lab technician has a 15% alcohol solution and a 35% alcohol solution. She wants to make 100 gallons of a 29% alcohol solution. How much of each type of solution should she use?

Answer

$x + y = 100$

$.15x + .35y = .29(100)$

30 gallons of 15%

70 gallons of 35%

Mixture

A coffee merchant has coffee beans that sell for $3 per pound and $5 per pound. The two types are to be mixed to create 100 pounds of a mixture that will sell for $4.50 per pound. How much of each type of bean should be used?

Answer

$X + y = 100$

$3x + 5y = 4.50(100)$

25 pounds of $3 beans

75 pounds of $5 beans

Tickets

- In college, Mrs. Nowak and her teammates were able to sell 400 tickets for their “Dancers for Cancers” benefit. Adult tickets cost $4 and student tickets cost $2 each. How many of each type of ticket did she sell if her team raised a total of $900?

Answer

$a+s=400$

$4a+2s=900$

50 adult tickets

350 student tickets

Perimeter

The length of Sally's garden is 4 meters greater than 3 times the width. The perimeter of the garden is 72 meters. What are the dimensions of the garden?

Answer

$L=3w+4$

$2L+2w = 72$

Width = 8meters

Length = 28 meters

Investment

Jim invests a part of $8,000 into bonds paying 12% interest, and the rest into a savings account earning 8% interest. If he receives $840 in interest at the end of the year, how much did he invest into each account?

Answer

B+s=8000

.12b+.08s=840

$3,000 into savings

$5,000 into bonds

Solve using any method

$4x - 3y = 7$

$1.5x + y = 9$

Answer

Hint: clear the decimals first!

(4,3)m

Solve using any method

$3y + 5x = 1$

$-5x - 3y = 1$

Answer

No solution

Solve using any method

$4y = -5x + 3$

$2y + 5/2x = 3/2$

Answer

Infinitely many solutions (IMS)