

6.6 word problems

6-6 Homework G

6.6.6

Question Help

Yesterday, a movie theater sold 300 bags of popcorn. A large bag of popcorn costs \$4. A small bag of popcorn costs \$1. In all, the movie theater made \$687 from popcorn sales. Write and solve a system of equations to find how many bags of each size of popcorn were sold.

The movie theater sold large bags of popcorn and small bags of popcorn.

6-6 Homework G

6.6.10

Question Help

Age If you add Natalie's age and Fred's age, the result is 39. If you add Fred's age to 3 times Natalie's age, the result is 89. Write and solve a system of equations to find how old Fred and Natalie are.

Fred is years old. Natalie is years old.

6-6 Homework G

6.6.11

Question Help

Estimation The perimeter of a rectangle is about 15.9 cm. If you double the width of the rectangle the perimeter is about 21.8 cm. Find the dimensions of the smaller rectangle. Round the given values to the nearest integer. Use the rounded values to write and solve a system of equations to find the length and the width of the rectangle.

The length is about cm and the width is about cm.
(Type whole numbers.)

6.6.5

Question Help

At a basketball game, a team made 59 successful shots. They were a combination of 1- and 2-point shots. The team scored 98 points in all. Write and solve a system of equations to find the number of each type of shot.

There were 2-point shots and 1-point shots.

6.6.19

Question Help

Challenge A car repair shop charges \$1 for mounting a tire purchased from the shop. The repair shop charges \$6 for mounting a tire that was purchased from another shop. Last month, the total charges for mounting tires were \$783. The number of tires mounted and purchased from the shop was 579 less 4 times the number of tires mounted that were purchased from other shops. Write and solve a system of equations to find the number of tires purchased from the shop and from other shops.

The shop mounted tires purchased from the shop and tires purchased from other shops.

6.6.16

Question Help

Two airplanes are carrying food and medical supplies to a country in need. One airplane is carrying 86 meals and 54 medical kits. The total cost for the supplies on that airplane is \$762. The other airplane is carrying 79 meals and 54 medical kits. The total cost for the supplies on that airplane is \$827. Write and solve a system of equations to find the price of one meal and the price of one medical kit. If a third airplane is carrying 70 meals and 61 medical kits, what is the total cost of supplies?

The price for one meal is \$. The price for one medical kit is \$.

#12

6.6 word problem examples

6-6 Homework G

6.6.6

Question Help

Yesterday, a movie theater sold 309 bags of popcorn. A large bag of popcorn costs \$4. A small bag of popcorn costs \$1. In all, the movie theater made \$687 from popcorn sales. Write and solve a system of equations to find how many bags of each size of popcorn were sold.

The movie theater sold large bags of popcorn and small bags of popcorn.

of bag $l + s = 309$

quantity $4l + 1s = 687$

$$\begin{array}{r} l + s = 309 \\ - 4l + 1s = 687 \\ \hline -3l = -378 \\ l = 126 \end{array}$$

$$\begin{array}{r} 126 + s = 309 \\ -126 \quad -126 \\ \hline s = 183 \end{array}$$

6-6 Homework G

6.6.10

Question Help

Age If you add Natalie's age and Fred's age, the result is 39. If you add Fred's age to 3 times Natalie's age, the result is 69. Write and solve a system of equations to find how old Fred and Natalie are.

Fred is years old, Natalie is years old.

$$\begin{array}{l} N + F = 39 \\ F + 3N = 69 \end{array}$$

$$\begin{array}{r} F + N = 39 \\ - F + 3N = 69 \\ \hline -2N = -30 \\ -2 \\ \hline N = 15 \end{array}$$

$$\begin{array}{r} N + F = 39 \\ 15 + F = 39 \\ -15 \quad -15 \\ \hline F = 24 \end{array}$$

6-6 Homework G

6.6.11

Question Help

Estimation The perimeter of a rectangle is about 15.9 cm. If you double the width of the rectangle the perimeter is about 21.8 cm. Find the dimensions of the smaller rectangle. Round the given values to the nearest integer. Use the rounded values to write and solve a system of equations to find the length and the width of the rectangle.

The length is about cm and the width is about cm.
(Type whole numbers.)

$$\begin{array}{l} 2l + 2w = 15.9 \\ 2l + 2(2w) = 21.8 \end{array}$$

$$\begin{array}{r} 2l + 2w = 15.9 \\ - 2l + 4w = 21.8 \\ \hline -2w = -5.9 \\ -2 \\ \hline w = +2.95 \\ w = 3 \end{array}$$

$$\begin{array}{r} 2l + 2(3) = 15.9 \\ 2l + 6 = 15.9 \\ -6 \quad -6 \\ \hline 2l = 9.9 \\ 2 \end{array}$$

$$l = 5$$

6.6.5

Question Help



At a basketball game, a team made 59 successful shots. They were a combination of 1- and 2-point shots. The team scored 98 points in all. Write and solve a system of equations to find the number of each type of shot.

There were ☐ 2-point shots and ☐ 1-point shots.

of
Shots

of
points

$$x + y = 59$$

$$1x + 2y = 98$$

$$\begin{array}{r} x + y = 59 \\ - \quad x + 2y = 98 \\ \hline -y = -39 \\ y = 39 \\ (2 \text{ point shots}) \end{array}$$

$$\begin{array}{r} x + y = 59 \\ x + 39 = 59 \\ -39 \quad -39 \\ \hline x = 20 \\ (1 \text{ pt. shots}) \end{array}$$

#15 6.6.19

Question Help



Challenge: A car repair shop charges \$1 for mounting a tire purchased from the shop. The repair shop charges \$6 for mounting a tire that was purchased from another shop. Last month, the total charges for mounting tires were \$783. The number of tires mounted and purchased from the shop was \$75 less 4 times the number of tires mounted that were purchased from other shops. Write and solve a system of equations to find the number of tires purchased from the shop and from other shops.

The shop mounted ☐ tires purchased from the shop and ☐ tires purchased from other shops.

1x = 4y - 75
51x = 41y - 375
SKIP

#12 6.6.18

Question Help



Two airplanes are carrying food and medical supplies to a country in need. One airplane is carrying 66 meals and 54 medical kits. The total cost for the supplies on that airplane is \$762. The other airplane is carrying 79 meals and 54 medical kits. The total cost for the supplies on that airplane is \$827. Write and solve a system of equations to find the price of one meal and the price of one medical kit. If a third airplane is carrying 70 meals and 61 medical kits, what is the total cost of supplies?

The price for one meal is \$☐. The price for one medical kit is \$☐.

$$\begin{array}{r} P1 \rightarrow 66m + 54K = 762 \\ P2 \rightarrow 79m + 54K = 827 \\ \hline -13m \quad \quad = -65 \\ \hline -13 \quad \quad \quad \\ m = \$5 \end{array}$$

$$P3 \rightarrow 70(5) = 350$$

$$\begin{array}{r} 66(5) + 54K = 762 \\ 330 + 54K = 762 \\ -330 \quad \quad \quad \\ \hline 54K = 432 \end{array}$$

$$\begin{array}{r} 54K = 432 \\ K = \$8 \end{array}$$

$$P3 \rightarrow \$8(61) = \$488$$

$$\$488 + \$350 = \$838$$