

6.5 word problems

6-5 Homework G ▼

6.5.6

Question Help ⚙

There are two red jars of marbles and one blue jar of marbles. Jars of a certain color have the same number of marbles in them. There are 43 marbles in total. The difference between the number of marbles in a red jar and the number of marbles in a blue jar is 14. Find the number of marbles in each type of jar.

There are marbles in a red jar.

6-5 Homework G ▼

6.5.10

Question Help ⚙

Trains Two trains, Train A and Train B, weigh a total of 189 tons. Train A is heavier than Train B. The difference of their weights is 125 tons. What is the weight of each train?

Train A weighs tons

6.5.16

Question Help



Two balloons, Balloon A and Balloon B, have a total volume of $\frac{3}{5}$ gallons. Balloon A has a greater volume than Balloon B. The difference of their volumes is $\frac{1}{5}$ gallons. What is the volume of each balloon?

The volume of Balloon A is gallon(s). (Simplify your answer.)

6.5.19

Question Help



Challenge On a fishing trip, Garth catches two types of fish. Each of Fish A weighs $1\frac{1}{8}$ pounds and each of Fish B weighs $\frac{5}{6}$ pound. The total weight of all the fish is $15\frac{1}{2}$ pounds. The difference in weight of all of Fish A and all of Fish B is $5\frac{1}{2}$ pounds. Find how many fish of each type Garth caught.

Garth caught of Fish A and of Fish B.

6.5 word problems

6-5 Homework G

6.5.6

Question Help

There are two red jars of marbles and one blue jar of marbles. Jars of a certain color have the same number of marbles in them. There are 43 marbles in total. The difference between the number of marbles in a red jar and the number of marbles in a blue jar is 14. Find the number of marbles in each type of jar.

There are marbles in a red jar.

$$\begin{aligned} 2r + 1b &= 43 \\ r - b &= 14 \end{aligned}$$

$$\begin{aligned} 2r + 1b &= 43 \\ + r - 1b &= 14 \\ \hline 3r &= 57 \end{aligned} \quad r = 19$$

19 red
5 blue

$$\begin{aligned} r - b &= 14 \\ 19 - b &= 14 \\ -19 & \quad -19 \\ \hline -1(-b) &= -5 \\ b &= 5 \end{aligned}$$

6-5 Homework G

6.5.10

Question Help

Trains Two trains, Train A and Train B, weigh a total of 189 tons. Train A is heavier than Train B. The difference of their weights is 125 tons. What is the weight of each train?

Train A weighs tons.

$$\begin{aligned} A + B &= 189 \\ A - B &= 125 \end{aligned}$$

$$\begin{aligned} A + B &= 189 \\ + A - B &= 125 \\ \hline 2A &= 314 \\ 2 & \end{aligned}$$

$$A = 157$$

Train A = 157 tons
Train B = 32 tons

$$\begin{aligned} A + B &= 189 \\ 157 + B &= 189 \\ -157 & \quad -157 \\ \hline B &= 32 \end{aligned}$$

6.5.16

Question Help

Two balloons, Balloon A and Balloon B, have a total volume of $\frac{3}{5}$ gallons. Balloon A has a greater volume than Balloon B. The difference of their volumes is $\frac{1}{5}$ gallons. What is the volume of each balloon?

The volume of Balloon A is gallon(s). (Simplify your answer.)

$$A + B = \frac{3}{5}$$

$$A - B = \frac{1}{5}$$

$$\begin{array}{r} A + B = \frac{3}{5} \\ + \quad A - B = \frac{1}{5} \\ \hline \end{array}$$

$$\frac{1}{2} (2A = \frac{4}{5})$$

$$A = \frac{2}{5}$$

$$A + B = \frac{3}{5}$$

$$\frac{2}{5} + B = \frac{3}{5}$$

$$-\frac{2}{5} \quad -\frac{2}{5}$$

$$B = \frac{1}{5}$$

Volume of balloon A = $\frac{2}{5}$ g
Volume of balloon B = $\frac{1}{5}$ g

6.5.19

Question Help

Challenge On a fishing trip, Garth catches two types of fish. Each of Fish A weighs $1\frac{1}{6}$ pounds and each of Fish B weighs $\frac{5}{6}$ pound. The total weight of all the fish is $15\frac{1}{2}$ pounds. The difference in weight of all of Fish A and all of Fish B is $5\frac{1}{2}$ pounds. Find how many fish of each type Garth caught.

Garth caught of Fish A and of Fish B.

$$\frac{7}{6}A + \frac{5}{6}B = 15\frac{1}{2}$$

$$\frac{7}{6}A - \frac{5}{6}B = 5\frac{1}{2}$$

$$\frac{7}{6}A + \frac{5}{6}B = 15\frac{1}{2}$$

$$\frac{7}{6}(\frac{9}{1}) + \frac{5}{6}B = 15\frac{1}{2}$$

$$10\frac{1}{2} + \frac{5}{6}B = 15\frac{1}{2}$$

$$-10\frac{1}{2}$$

$$\frac{5}{6}B = 5$$

$$\rightarrow B = 6$$

$$\frac{7}{6}A + \frac{5}{6}B = 15\frac{1}{2}$$

$$+ \frac{7}{6}A - \frac{5}{6}B = 5\frac{1}{2} = 15\frac{1}{2}$$

$$\frac{6}{14} \left(\frac{14}{6}A \right) = 21$$

$$A = \frac{21}{1} \cdot \frac{6}{14} = 9$$

$$A = \frac{18}{2}$$

$$A = 9$$