






Printable Worksheets from [sofatutor.com](https://www.sofatutor.com)

Solving Systems of Equations by Elimination

$25 \times$  = 115 tons

$1 \times$  = 3 tons

$1 \times$  = 7 tons

$x = \#$ of Container A
 $y = \#$ of Container B

$$\begin{aligned}x + y &= 25 \\3x + 7y &= 115\end{aligned}$$

$$-3 \times (-3x - 3y) = -3 \times 25$$
$$\begin{aligned}3x + 7y &= 115 \\3x + 7y &= 115\end{aligned}$$

- 1 Establish a system of equations for the given situation.
- 2 Examine the following statements.
- 3 Describe how to solve systems of equations by elimination.
- 4 Solve the given systems of equations by elimination.
- 5 Determine how much pocket money Ben and Sam get each day.
- 6 Solve the system of equations by elimination.
- + with lots of tips, answer keys, and detailed answer explanations for all of the problems.



The complete package, including all problems, hints, answers, and detailed answer explanations is available for all [sofatutor.com](https://www.sofatutor.com) subscribers.



Establish a system of equations for the given situation.

Fill in the blanks.



At the end of the expedition, the crew wants to bring some samples from Planet Elimination back to Earth.

They have a total of 25 containers:

x containers of sample A weighing 3 tons each.

y containers of sample B weighing 7 tons each.

The maximum weight limit 115 tons.

1 The total number of containers can be represented by the following equation:

$$x \text{ }_1 y = \text{ }_2$$

2 Taking the maximum weight limit of 115 tons and the weight for each container into consideration, we get the equation:

$$\text{ }_3 = 115$$

3 Therefore, we have₄ equation(s) with₅ variable(s).



Hints for solving these problems

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Establish a system of equations for the given situation.

Hint #1

If you have 4 cats and 5 dogs, you have 9 animals in total.

Hint #2

Remember: Usually you need as many equations as the number of variables.



Answers and detailed answer explanations for these problems

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Establish a system of equations for the given situation.

Answer key: 1: + // 2: 25 // 3: $3x + 7y$ // 4: two // 5: two

First, we have to write a system of equations with the given information.

We assign x to the number of containers of sample A, and y to the number of containers of sample B.

The total number of containers is 25. This gives us the first equation:

$$x + y = 25$$

Next consider the weight of each container:

- The maximum weight limit is 115 tons
- x containers of sample A have a weigh 3 tons each
- y containers of sample B have a weigh 7 tons each

This gives us the second equation:

$$3x + 7y = 115$$

Therefore, the system of equations is:

$$\begin{aligned}x + y &= 25 \\ 3x + 7y &= 115\end{aligned}$$