



A Basket Full of Eggs

## THE LESSON

A young girl brought a small basket full of eggs to the market. Someone asked her, "How many eggs do you have?" She answered, "I don't know. But when I counted in fives, one egg was left. When I counted in sixes, five eggs were left. And when I counted in sevens, six eggs were left."

How many eggs were in the basket?

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Before we try to solve it in class, let’s discuss in groups! If your group thinks it has a solution, you show your approach! This is a really fun problem to try in an elementary classroom!

One way to solve it

Write three columns of positive integers:

those that have remainder 1 when divided by 5

those that have remainder 5 when divided by 6

those that have remainder 6 when divided by 7

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Start with 1 and add 5	Start with 5 and add 6	Start with 6 and add 7
1	5	6
6	11	13
11	17	20
16	23	27
21	29	34
26	35	41
31	41	48
36	46	55
41	51	62

## SOLUTION

Write three columns of positive integers:

those that have remainder 1 when divided by 5

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Look for a number that occurs in every column!

Start with 1 and add 5	Start with 5 and add 6	Start with 6 and add 7
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Look for a number that occurs in every column!

Here we have found a possible answer: 41 eggs.

## SOLUTION

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Are there any others?

Yes, for example, 251. Can you find another one?

## SOLUTION

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Yes, for example, 251. Can you find another one?

(Hint: Add  $5*6*7$  to the previous solution.)

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(Hint: Add  $5 \cdot 6 \cdot 7$  to the previous solution.)

Which of the numbers is a correct solution?

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Here we have found a possible answer: 41 eggs.

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Yes, for example, 251. Can you find another one?

(Hint: Add  $5 \cdot 6 \cdot 7$  to the previous solution.)

Which of the numbers is a correct solution?

You cannot carry 200 or more eggs in a small basket. So, 41 eggs is a correct answer.



Now it's your turn!

A young boy brought a small basket full of eggs to the market. Someone asked him, "How many eggs do you have?" He answered, "I don't know. But when I counted in fives, two eggs were left. When I counted in sixes, four eggs were left. And when I counted in sevens, one egg was left."

How many eggs were in the basket?

A young boy brought a small basket full of eggs to the market. Someone asked him, "How many eggs do you have?" He answered, "I don't know. But when I counted in fives, two eggs were left. When I counted in sixes, four eggs were left. And when I counted in sevens, one egg was left."

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After you figure it out, make up your own problem!



The End