

Reasoning and Problem Solving

Step 4: Divide by 100

National Curriculum Objectives:

Mathematics Year 4: (4C6b) [Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers](#)

Differentiation:

Questions 1, 4 and 7 (Reasoning)

Developing Explain why a calculation regarding a 3-digit number being divided by 100 is correct or incorrect.

Expected Explain why a calculation regarding a 4-digit number being divided by 100 is correct or incorrect.

Greater Depth Explain why a calculation regarding a 4-digit number being divided by 100 is correct or incorrect. Includes a deeper understanding of place value by dividing by 10 and by 10 again.

Questions 2, 5 and 8 (Problem Solving)

Developing To answer a word problem using 3-digit numbers being divided by 100 with a variety of answers.

Expected To answer a word problem using 4-digit numbers being divided by 100 with a variety of answers.

Greater Depth To answer a word problem using 4-digit numbers being divided by 100 with a variety of answers. Includes a deeper understanding of place value by dividing by 10 and by 10 again.

Questions 3, 6 and 9 (Reasoning)

Developing Explain why a statement regarding 3-digit numbers being divided by 100 is incorrect, using Base 10 as a visual aid.

Expected Explain why a statement regarding 4-digit numbers being divided by 100 is incorrect.

Greater Depth Explain why a statement regarding 4-digit numbers being divided by 10 and 10 again is correct or incorrect, using unconventional partitioning.

More [Year 4 Multiplication and Division](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

Divide by 100

1a. Sara has 200 lollies that she wants to share with 100 friends.

Sara says,



My friends will have 20 lollies each.

Is she correct? Explain your answer.



R

Divide by 100

1b. Molly has 600 marbles that she wants to share with 100 friends.

Molly says,



My friends will have 6 marbles each.

Is she correct? Explain your answer.



R

2a. Laura is thinking of a 3-digit number.



I divide that number by 100.

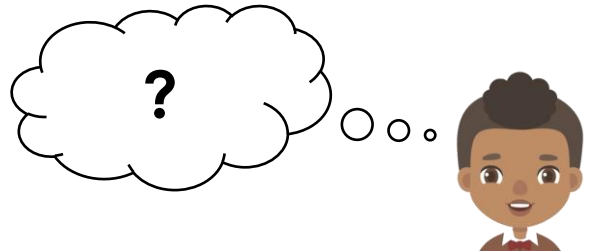
The answer I get after dividing by 100 is between 1 and 10 and is a multiple of 3.

What number did I start with?



PS

2b. Ross is thinking of a 3-digit number.



I divide that number by 100.

The answer I get after dividing by 100 is between 1 and 10 and is a multiple of 4.

What number did I start with?



PS

3a. A number divided by 100 equals this:

T	O

Mutya thinks the calculation must be:
 $800 \div 100 = 8$

Is she correct? Prove it.



R

3b. A number divided by 100 equals this:

T	O

Sheila thinks the calculation must be:
 $500 \div 100 = 50$

Is she correct? Prove it.



R

Divide by 100

4a. There are 100 centimetres in a metre. Sasha is winding 1,600cm of ribbon onto 1m spools.

Sasha says,



I will have 160 spools when I have finished.

Is she correct? Explain your answer.



R

Divide by 100

4b. There is 100 pence in one pound. Nate is putting the 3,400 pence in 100p bags.

Nate says,



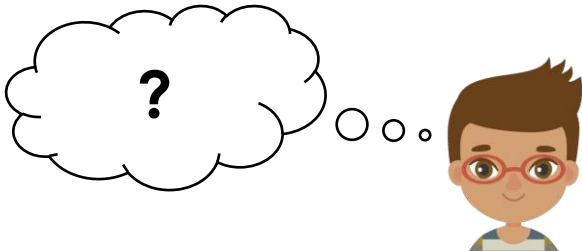
I will have 34 bags of coins when I have finished.

Is he correct? Explain your answer.



R

5a. Alfie is thinking of a 4-digit number.



I divide that number by 100.

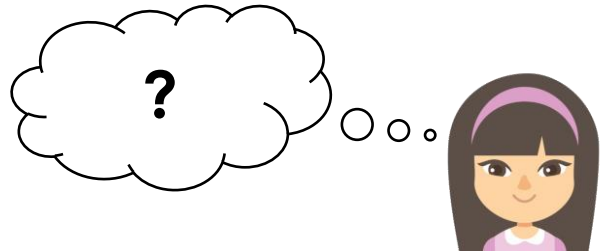
The answer I get after dividing by 100 is a multiple of 3 between 20 and 30.

What number did I start with?



PS

5b. Alena is thinking of a 4-digit number.



I divide that number by 100.

The answer I get after dividing by 100 is a multiple of 4 between 30 and 50.

What number did I start with?



PS

6a. A number divided by 100 equals this:

82

Kofi thinks the calculation must be:
 $820 \div 100 = 82$

Is he correct? Prove it.



R

6b. A number divided by 100 equals this:

55

Lacie thinks the calculation must be:
 $5,500 \div 100 = 55$

Is she correct? Prove it.



R

Divide by 100

7a. Brad has 2,300 marbles. He puts them into ten piles. He then puts each pile into ten bags.

Brad says,



There will be 23 marbles in each bag.

Is he correct? Explain your answer.



R

Divide by 100

7b. Ollie has 5,600 football cards. He puts them into ten piles. He then shares the piles between 10 friends.

Ollie says,



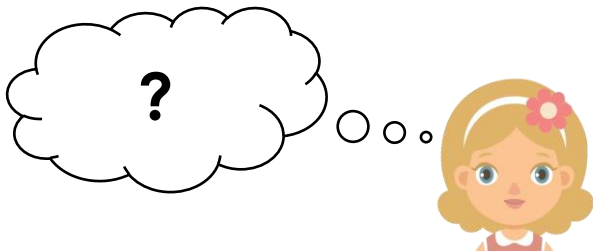
Each of my friends will get 560 football cards.

Is he correct? Explain your answer.



R

8a. Anya is thinking of a 4-digit number.



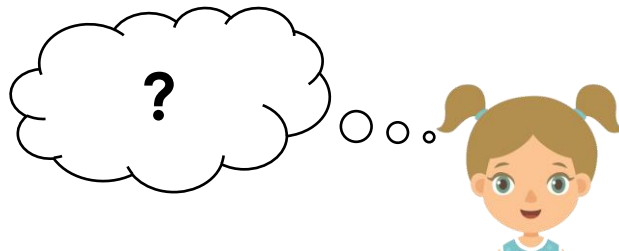
I divide the number by 10 and then divide the answer by 10 again. The final number is a multiple of 3 between 40 and 60.

What number did I start with?



PS

8b. Mina is thinking of a 4-digit number.



I divide the number by 10 and then divide the answer by 10 again. The final number is a multiple of 9 between 50 and 80.

What number did I start with?



PS

9a. A number divided by 10 and by 10 again equals this:

5 tens and 13 ones

Lucy thinks the calculation must be:
 $6,300 \div 10 \div 10 = 630$

Is she correct? Prove it.



R

9b. A number divided by 10 and by 10 again equals this:

2 tens and 28 ones

Dylan thinks the calculation must be:
 $4,800 \div 10 \div 10 = 48$

Is he correct? Prove it.



R

Reasoning and Problem Solving Divide by 100

Developing

- 1a. Sara is incorrect. $200 \div 100 = 2$. Her friends will have 2 lollies each.
2a. Various answers, for example: 300; 600; 900
3a. Mutya is correct. $8 \times 100 = 800$

Expected

- 4a. Sasha is incorrect. $1,600 \div 100 = 16$. She will have 16 spoons.
5a. Various answers, for example: 2,100; 2,400; 2,700
6a. Kofi is incorrect. $82 \times 100 = 8,200$

Greater Depth

- 7a. Brad is correct. $2,300 \div 10 \div 10 = 23$
8a. Various answers, for example: 4,200; 4,500; 4,800; 5,100; 5,400; 5,700
9a. Lucy is incorrect. $63 \times 10 \times 10 = 6,300$

Reasoning and Problem Solving Divide by 100

Developing

- 1b. Molly is correct. $600 \div 100 = 6$
2b. Various answers, for example: 400; 800
3b. Sheila is incorrect. $50 \times 100 = 5,000$. The correct calculation is $500 \div 100 = 5$

Expected

- 4b. Nate is correct. $3,400 \div 100 = 34$
5b. Various answers, for example: 3,200; 3,600; 4,000; 4,400; 4,800
6b. Lacie is correct. $55 \times 100 = 5,500$

Greater Depth

- 7b. Ollie is incorrect. $5,600 \div 10 \div 10 = 56$. His friends will get 56 cards each.
8b. Various answers, for example: 5,400; 6,300; 7,200
9b. Dylan is correct. $48 \times 10 \times 10 = 4,800$