Reasoning and Problem Solving
Step 7: Divide 2 Digits by 1 Digit 3

National Curriculum Objectives:

Mathematics Year 3: (3C6) Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
Mathematics Year 3: (3C7) Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods
Mathematics Year 3: (3C8) Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects

Differentiation:

Questions 1, 4 and 7 (Reasoning)
Developing Compare two methods to find the correct solution and explain reasons for this choice. Dividing 2-digit numbers by a 1-digit number. Solutions include remainders but no exchanges. Pictorial representations and scaffolding for all questions.
Expected Compare two methods to find the correct solution and explain reasons for this choice. Dividing 2-digit numbers by a 1-digit number. Solutions include remainders and some exchanges. Some pictorial support or scaffolding.
Greater Depth Demonstrate two methods to find the correct solution to a given division and explain how both work. Dividing 2-digit numbers by a 1-digit number. Solutions include remainders and exchanges.

Questions 2, 5 and 8 (Reasoning)
Developing Prove a statement correct or incorrect. Dividing 2-digit numbers by a 1-digit number. Solutions include remainders but no exchanges. Pictorial representations for all questions.
Expected Prove a statement correct or incorrect. Dividing 2-digit numbers by a 1-digit number. Solutions include remainders and some exchanges. Some pictorial support or scaffolding.
Greater Depth Prove a statement correct or incorrect. Dividing 2-digit numbers by a 1-digit number. Solutions include remainders and exchanges.

Questions 3, 6 and 9 (Problem Solving)
Developing Complete two partially completed representations to show the same division. Dividing 2-digits numbers by a 1-digit number. Solutions include remainders but no exchanges. Pictorial representations and scaffolding for all questions.
Expected Complete two partially completed representations to show the same division. Dividing 2-digit numbers by 1-digit numbers. Solutions include remainders and some exchanges. Some pictorial support or scaffolding.
Greater Depth Complete two representations to show the same division and find more than one possible solution. Dividing 2-digit numbers by a 1-digit number. Solutions include remainders and exchanges.

More Year 3 Multiplication and Division resources.

Did you like this resource? Don't forget to review it on our website.

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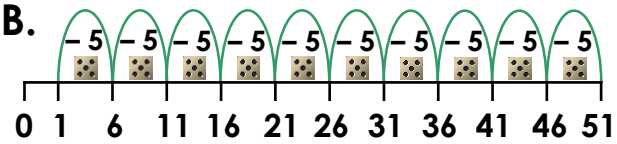
Divide 2 Digits by 1 Digit 3

Divide 2 Digits by 1 Digit 3

1a. Jenny is calculating 51 ÷ 5. Method A gives her an answer of 10 r4. Method B gives her an answer of 10 r1.

A.

B.

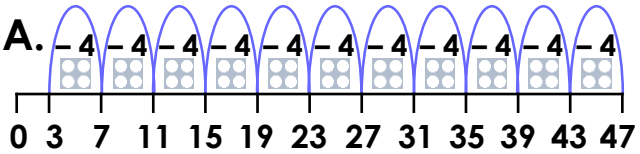


Explain which solution is correct.

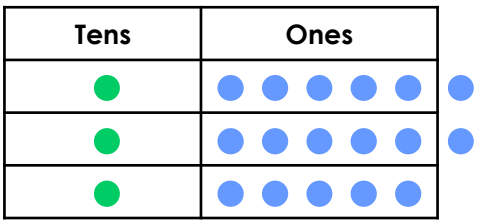
R

1b. Lottie is calculating 47 ÷ 4. Method A gives her an answer of 11 r3. Method B gives her an answer of 15 r2.

A.



B.



Explain which solution is correct.

R

2a. Asad thinks that 31 stickers can be shared equally between 3 of his friends and he will have 3 left for himself.

Is he correct? Prove it.

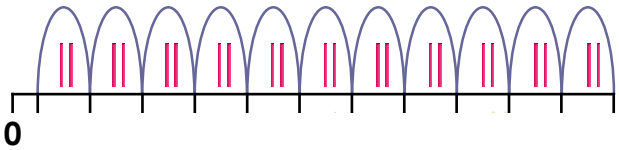
R

2b. Jessie thinks that 35 shells can be shared equally between 3 of her friends and she will have 2 left for herself.

Is she correct? Prove it.

R

3a. The number line below is linked to the calculation underneath.

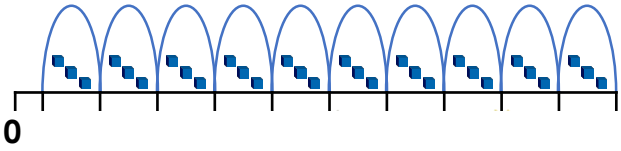


☐ ÷ 2 = ☐ r 1

Complete the number line and calculation above.

PS

3b. The number line below is linked to the calculation underneath.



☐ ÷ 3 = ☐ r 1

Complete the number line and calculation above.

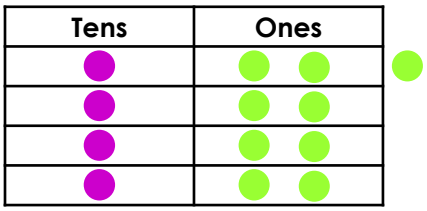
PS

Divide 2 Digits by 1 Digit 3

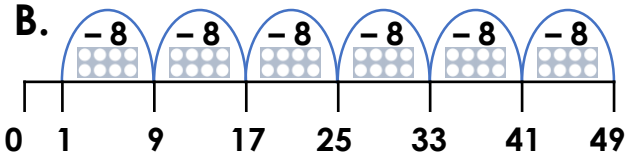
Divide 2 Digits by 1 Digit 3

4a. Geoff is calculating 49 ÷ 4. Method A gives him an answer of 12 r1. Method B gives him an answer of 6 r1.

A.



B.

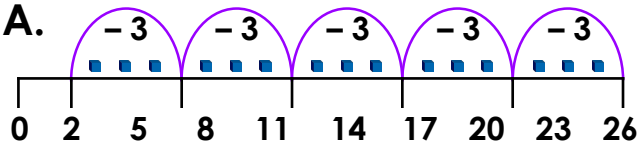


Explain which solution is correct.

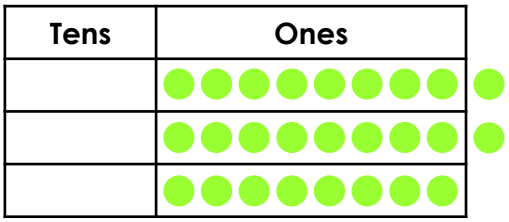
R

4b. Shaun is calculating 26 ÷ 3. Method A gives him an answer of 5 r2. Method B gives him an answer of 8 r2.

A.



B.

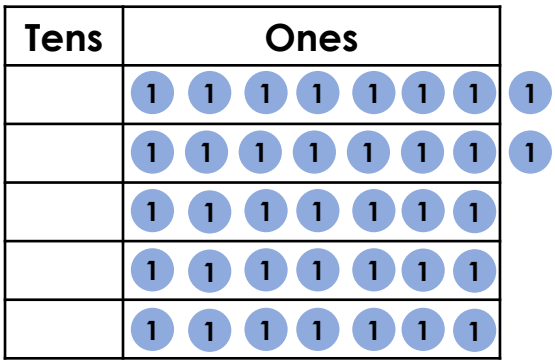


Explain which solution is correct.

R

5a. Millie thinks that 37 flowers can be shared equally between 5 vases and she will have 2 left over for her mum.

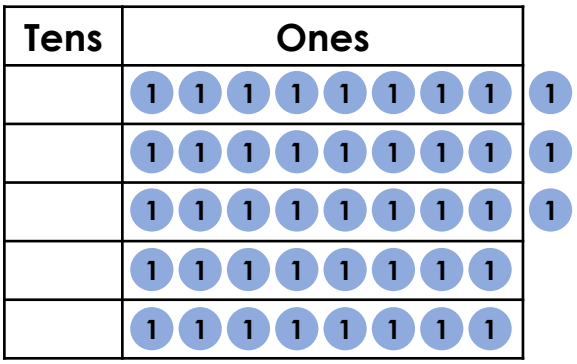
Is she correct? Prove it.



R

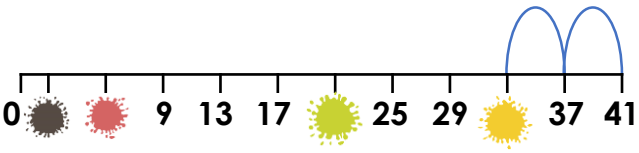
5b. Stan thinks that 44 pencils can be shared equally between 5 tables and 3 will be left to put in the cupboard.

Is he correct? Prove it.



R

6a. The number line below is linked to the calculation underneath.

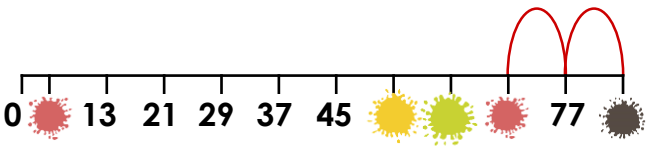


☐ ÷ 4 = ☐ r ☐

Complete the number line and calculation above.

PS

6b. The number line below is linked to the calculation underneath.



85 ÷ ☐ = ☐ r ☐

Complete the number line and calculation above.

PS

Divide 2 Digits by 1 Digit 3

7a. Henri is struggling to solve 78 ÷ 8.
Draw two different methods below that he could use to find the answer.

A.

B.

0 78

GD Explain both methods to help Henri.

R

8a. Fergal thinks that 98 bulbs can be shared equally between 4 sacks.

Is he correct? Prove it.

Tens	Ones

GD

R

9a. Fill in the missing digits in both images so that they show a matching division.

A. ? 6 ÷ 3 = ? ? r 2

B 0

Solve the calculations.
Find more than one solution.

GD

PS

Divide 2 Digits by 1 Digit 3

7b. Tania is struggling to solve 64 ÷ 5.
Draw two different methods below that she could use to find the answer.

A.

0 63

B.

GD Explain both methods to help Tania.

R

8b. Becky thinks that 83 marbles can be shared equally between 4 of her friends.

Is she correct? Prove it.

Tens	Ones

GD

R

9b. Fill in the missing digits in both images so that they show a matching division.

A. 0

B. 7 ? ÷ ? = 1 9 r ?

Solve the calculations.
Find more than one solution.

GD

PS

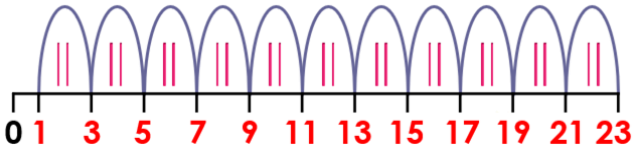
Reasoning and Problem Solving
Divide 2 Digits by 1 Digit 3

Developing

1a. 51 ÷ 5 = 10 r1. Method B gives the correct solution as 10 repeated jumps of 5 = 50 + 1 (remainder) = 51. Method A shows 54 ÷ 5 which is not the same as 51 ÷ 5.

2a. Asad is incorrect as he has calculated 31 ÷ 4, not 3. He has added an extra row.

3a. 23 ÷ 2 = 11 r1, as shown below:

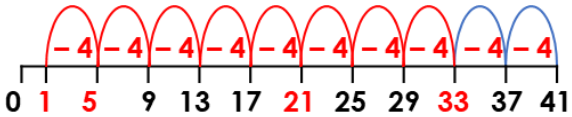


Expected

4a. 47 ÷ 4 = 11 r3. Method A gives the correct solution. In method B, Geoff has subtracted eight each time instead of four which changes the answer.

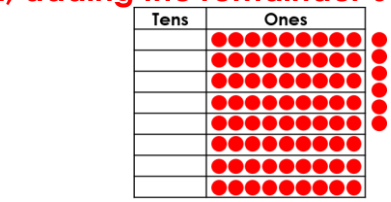
5a. 37 ÷ 5 = 7 r2. Millie is correct as 7 x 5 = 35, adding the remainder 2 is 37.

6a. 41 ÷ 4 = 10 r1, as shown below:



Greater Depth

7a. 78 ÷ 8 = 9 r6. Various methods may have been used. Below, method A shows 9 x 8 = 72 + 6 (remainder) = 78. Method B shows 9 repeated jumps of 8 which equals 72, adding the remainder 6 is 78.



8a. 98 ÷ 4 = 24 r2. Fergal is incorrect as two bulbs would be left over.

9a. Various answers, for example:

56 ÷ 3 = 18 r2

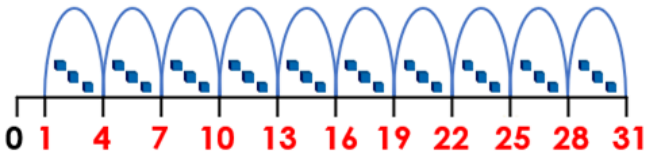
Reasoning and Problem Solving
Divide 2 Digits by 1 Digit 3

Developing

1b. 47 ÷ 4 = 11 r3. Method A gives the correct solution. In method B, 47 has been divided by three instead.

2b. 35 ÷ 3 = 11 r2. Jessie is correct as 11 x 3 = 33, adding the remainder 2 = 35.

3b. 31 ÷ 3 = 10 r1, as shown below:

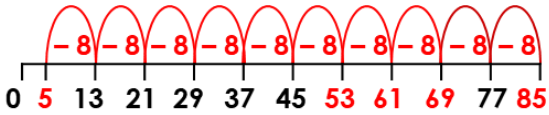


Expected

4b. 26 ÷ 3 = 8 r2. Method B gives the correct solution. In method A, there are only five jumps as the intervals have not been marked correctly.

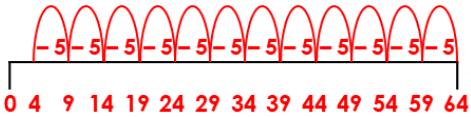
5b. 44 ÷ 5 = 8 r4. Stan is incorrect as he has used 43 counters on his place value grid instead of 44.

6b. 85 ÷ 8 = 10 r5, as shown below:



Greater Depth

7b. 64 ÷ 5 = 12 r4. Various methods may have been used. Below, method A shows 12 repeated jumps of 5 which equals 60 + 4 (remainder) = 64. Method B shows 12 x 5 = 60, adding the remainder 4 is 64.



8b. 83 ÷ 4 = 20 r3. Becky is incorrect as three marbles would be left over.

9b. Various answers, for example:

77 ÷ 4 = 19 r1