Lesson 8- Divide with remainders and problem solving

LO: To be able to divide up to 4 digit by 1 digit numbers with remainders

Recall

Solve the short division calculations.

1)

2	4	1	

2)

8	2	5	7	

3)

9	3	9	9	

LO: To be able to divide up to 4 digit by 1 digit numbers with remainders

Top Down	Self Assessment
Some of us will even: I can answer problem solving and reasoning questions when dividing up to 4 digit by 1 digit numbers with remainders	
Some of us will: I can answer problem solving and reasoning questions when dividing up to 4 digit by 1 digit numbers without remainders	
Most of us will: I can divide 4 digit numbers by 1 digit numbers with remainders	
All of us will: I can divide 3 digit numbers by 1 digit numbers with remainders	

Guided practice – My turn

- 6 slices of pizza make one whole pizza.
- Will there be any slices left if we want to make whole pizzas from our 253 slices?

- How many whole pizzas can the chefs make?
- What fraction of the pizza will be left over?

Guided practice – My turn

- 8 slices of pizza make one whole pizza.
- Will there be any slices left if we want to make whole pizzas from our 237 slices?

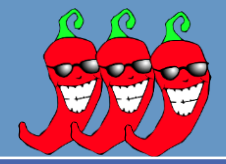
help

- A multiplication square or partitioning may be helpful

CHALLENGE!

- How many whole pizzas can the chefs make?
- What fraction of the pizza will be left over?

Intelligent Practice



Use written method to solve these calculations.	Use written method to solve these calculations.	Use written method to solve these calculations.
1. 2089 ÷ 7 =	1. 4093 ÷ 8 =	1. 5856 ÷ 9 =
2. 2857 ÷ 7 =	2. 4977 ÷ 8 =	2. 5108 ÷ 9 =
3. 3138 ÷ 7 =	3. 4918 ÷ 8 =	3. 5345 ÷ 9 =
4. 3985 ÷ 7 =	4. 4989 ÷ 8 =	4. 5567 ÷ 9 =
5. 4982 ÷ 7 =	5. 4387 ÷ 8 =	5. 6097 ÷ 9 =

Fill in the missing numbers in each question.
There are multiple answers

Q1)

$$\begin{array}{r} 0\,3\,3\ r\,4 \\ ?\overline{)\,2\,3^{2}5} \end{array}$$

Q2)

$$\begin{array}{r} 2\,?\,?\,?\ \ r? \\ ?\overline{)\,9\,7\,1\,8} \end{array}$$

Q3) 51? ÷ 3 = ??? r1

Dive Deeper 1

1) Muffins are packed in trays of 6 in a factory.
In one day, the factory makes 5,623 muffins.
How many trays do they need?
How many trays will be full?
Why are your answers different?

2) **5b. Eggs are packed into boxes. One box holds 8 eggs. There are 9,621 eggs. How many boxes are needed to hold all the eggs?**

3) **4a. Sean and Gabriel are calculating 7,987 ÷ 6.**

Sean

The answer is 1,331 r1.

The answer is 1,332 r1.

Gabriel

Who is correct? Explain your reasoning.

4) Put a ring round **two** numbers which divide by 5 with **no remainder**.

7	60	19	45	37	58

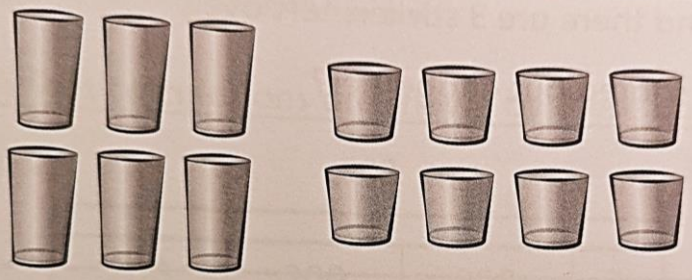
Dive Deeper 2

1)

8a. Freddie completes the following calculation.	8b. Theo completes the following calculation.
9,468 ÷ 9 = 1,011	8,547 ÷ 7 = 1,001
Find and explain any mistakes. Calculate the correct answer.	Find and explain any mistakes. Calculate the correct answer.

2)

A 5 litre bottle of water is shared between these glasses.

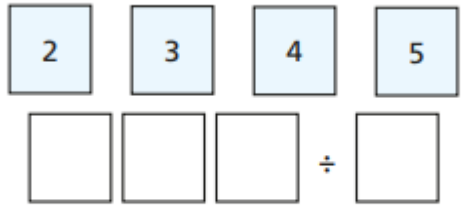


416 ml of water is poured into each tall glass.

The rest of the water is shared equally between the short glasses.

How much water is in each short glass?

3)



How many ways can you complete the calculation using all the digit cards so that there is a remainder of 1?

4)

Work out the missing digits. They each could have more than one answer.

a) When 7[ ] is divided by 5 the remainder is 3.

b) 1,73[ ] divides exactly by 3.

c) 59[ ] has a remainder of 5 when divided by 6.

Put operations signs (+ or − or × or ÷) between the numbers 3, 4, 5, 6 to make the highest possible number and lowest possible number.

How about trying with numbers 1, 2, 3, 4, 5 and 6?

I'm thinking of a number.

My number is both a multiple of 5 and a multiple of 6.

What could my number be?

What else could it be?

What is the smallest number it could be?

I'm thinking of a number.

My number is a multiple of 4, 5 and 6.

What could my number be?

What else could it be?

What is the smallest number it could be?