LO: I can apply my division knowledge to problem solving questions.

1 Circle the numbers that have no remainder when dividing by 5.

26　(300)　(95)　153　(6045)

Explain how you made your choices: _____

I know that any number that ends in 5 or 0 is a multiple of 5, so it can be split equally into 5 groups with no remainder.
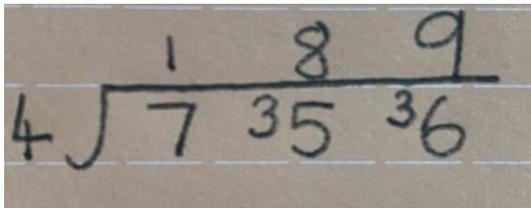
2 Circle the numbers that have no remainder when dividing by 2.

(1252)　(390)　77　1001　(788)

Explain how you made your choices: _____

I know that all even numbers are multiples of 2 so they can all be divided by 2 with no remainder.

3 Show that there is no remainder when 756 is divided by 4:

4 Use this rule to circle all of the divisions that have no remainder:

A number divides exactly by 4 if the last two digits of the number divide exactly by 4.

(516 ÷ 4 =)　(1748 ÷ 4 =)　938 ÷ 4 =　(?04 ÷ 4 =)

5 Can you ever have a remainder that is higher than 8 when you divide by a 1-digit number? Explain why or why not.

No because if you are dividing by 9, the largest one-digit number, the largest remainder you could have would be 8, any number larger than this would allow you to give at least 'one' more to each of your 9 groups.

6

I think there are exactly 52 weeks in a year.

Max

There are 365 days in a (non-leap) year and 7 days in a week...

Show whether or not Max is correct.

$$7 \overline{)3\ {}^36\ {}^05} = 0\ 5\ 2\ r\ 1$$

Max is incorrect there are 52 weeks and 1 day in a (non-leap) year.

7

Some stickers are shared out between 5 children.

Each child gets 32 stickers and there are 3 stickers left over.

a) How many stickers were shared out altogether?

32 × 5

32
30 2
150 ×5   10 ×5

$150 + 10 = 160 + 3 = 163$

163 sweets are shared out altogether.

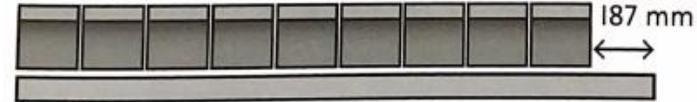b) Another child joins the group, so the stickers are collected up and now shared between the 6 children.

How many stickers does each child get now? How many stickers are left over?

$$6 \overline{)1\ {}^16\ {}^43} = 0\ 2\ 7\ r\ 1$$

Each child gets [27] stickers. There is 1 sticker left over.

8

A shelf is 2,050 mm long. 9 boxes are placed on the shelf.

187 mm

How wide is one box?

2050-187=1863 (begin by removing the extra space)

$$9 \overline{)1\ {}^18\ {}^63} = 0\ 2\ 0\ 7\ \text{mm}$$

One box is [207] mm wide.

9

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

416ml 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? **313ml of water is poured into each short glass.**

5litres = 5000ml

416 x 6 = 2496

2496ml is taken up by the large glasses.

5000-2496=2504

There is 2504ml of water to be divided into the 8 short glasses

$$8 \overline{)2\ {}^25\ {}^10\ {}^24} = 0\ 3\ 1\ 3\ \text{ml}$$