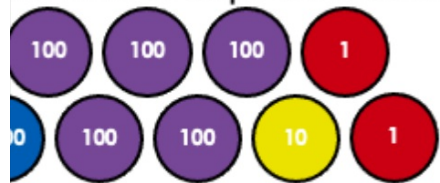


Monday

To multiply numbers by 10.

Number is represented?



Follow the clues.
1,510 add 3,000
Subtract 2,500
It is your number?

Work out the calculation.

	5	3	7	9
.	2	5	1	0

Complete the sentence.

45 hundreds and 13 hundreds is the same as ___ hundreds.

Four

Solve it...

	9	0	5	3
+				
	9	7	8	5

Can you identify the missing number?

Five

Is

What do we already know?

30

$$765 \times 10 =$$

$$3 \times 10 =$$

$$321 \times 10 =$$

$$7 \times 10 =$$

$$67 \times 10 =$$

$$6 \times 10 =$$

your times tables to complete the number sentences

$$\square \times 10 = \square$$

$$10 \times \square = 30$$

$$0 \times 11 = \square$$

$$12 \times 10 = \square$$

$$\square \times \square = 90$$

$$10 \times 6 = \square$$

What is the pattern?

When we multiply a number by ten, it gets ten times bigger.

$$47 \times 10 = 470$$

H	T	O
	4	7
4	7	0

Use the place value grid to find the answer.

$3 \times 10 = \square$

H	T	C
	3	8

Use the calculation to complete the sentence

$$560 = 56 \times 10$$

There are _____ lots of 56 in _____.

560 is _____ times bigger than _____.

Answer

Sentences
with one.

1. $75 \times 10 =$

There are 10 lots of 75 in _____.
_____ is ten times bigger than 75.

2. _____ = 35×10

There are 10 lots of 35 in _____.
_____ is ten times bigger than _____.

3. $98 \times 10 =$

There are 10 lots of 98 in _____.
_____ is ten times bigger than _____.

Let's develop our learning

Which statements are **not correct**?

Ten lots of 84
is 840.

$$31 \times 10 > 10 \times 31$$

27 is ten times
bigger than 17.

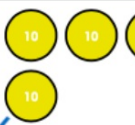
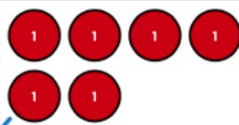

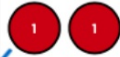
If I multiply 95 by
10, I get 950.

Explain how you know.

FLUENCY 1

When you multiply a number by 10, it becomes 10 times bigger.

Draw counters to show the answer to 56×10 .

H	T	O
		
		

FLUENCY 2

Ten lots of 15 is ____.



FLUENCY 3

Which calculation does not have an answer?

<input type="checkbox"/> 6×10	<input type="checkbox"/> 610
<input type="checkbox"/> 600×10	<input type="checkbox"/> 60
<input type="checkbox"/> 16×10	<input type="checkbox"/> 1,600
<input type="checkbox"/> 160×10	<input type="checkbox"/> 6,000
<input type="checkbox"/> 61×10	

FLUENCY 4

A regular decagon has sides of 12m.
What is the perimeter of the decagon?



FLUENCY 5

A train has ten carriages.
There are 24 seats in each carriage.
How many seats are on the train altogether?



REASONING 1

What is multiplying by 10.

	2	8	3	1
x				10

Would you give to Ranjit?

REASONING 2

Always, Sometimes or Never?

"Multiply a number by ten, your answer will have one zero in it."

Give your answer with examples.



REASONING 3

What do you notice? Continue the pattern.



$5 \times 10 = 50$
 $50 \times 10 = 500$
 $500 \times 10 = 5,000$

REASONING 4

Would you rather have 600 bags of 10 cookies or 10 multipacks which contain 6 packs of 10 cookies? Explain your reasoning.



PROBLEM SOLVING 1

Asha, Jane and Caleb have each multiplied a whole number by 10.

Asha



My answer has between 23 and 29 tens.

Jane



My answer has between 41 and 51 tens.

Caleb



My answer has between 90 and 100 tens.

What could their answers be?
How many possibilities can you find?

PROBLEM SOLVING 2

Use the digit cards to make a multiplication problem.
Each card may only be used once.



How many possibilities can you find?

$$2 \times 10 =$$

$$5 \times 10 =$$

$$7 \times 10 =$$

$$11 \times 10 =$$

$$6 \times _ 10 =$$

$$_ \times 10 = 40$$

$$10 \times 12 =$$

$$100 = _ \times 10$$

Multiply Multiples 1

Age 7 to 11

Challenge Level ★

In this calculation, each square represents a missing digit:

$$\square 0 \times \square = \square 0 \times \square$$

One possible solution is:

$$10 \times 2 = 20 \times 1$$

Can you work out some different ways to balance the equation?

Tuesday

Calculate the sum of...

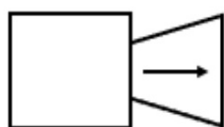
and and two thousand

Four

Calculate the difference.

	6	4	3	2
-	1	0	2	0
<hr/>				

the function machine.



5,048

000 to the number.

	T	O
●	●●●	

Five

Caleb believes...



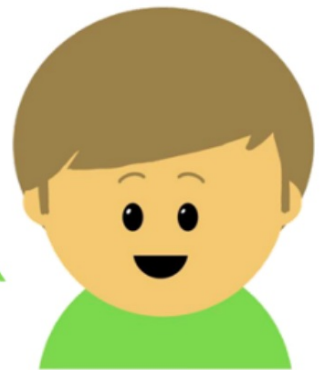
**"When I add 4,500
and 35 tens, my
answer is 8,000."**

Is Caleb correct?
Explain your reasoning!

Tuesday

Multiplying by 100

Could you be
a multiplying
by 100
mastermind?



Tell me three things about this number.

5,290

This number has _____ hundreds.


It is less than _____.

It is ten times bigger than _____.

When we multiply a number by 10, it gets ten times bigger.

$$59 \times 10 =$$


TH	H	T	O
		5	9



When we multiply a number by 100, it gets one hundred times

$$9 \times 100 = 5,900$$

TH	H	T	O
		5	9
5	9	0	0



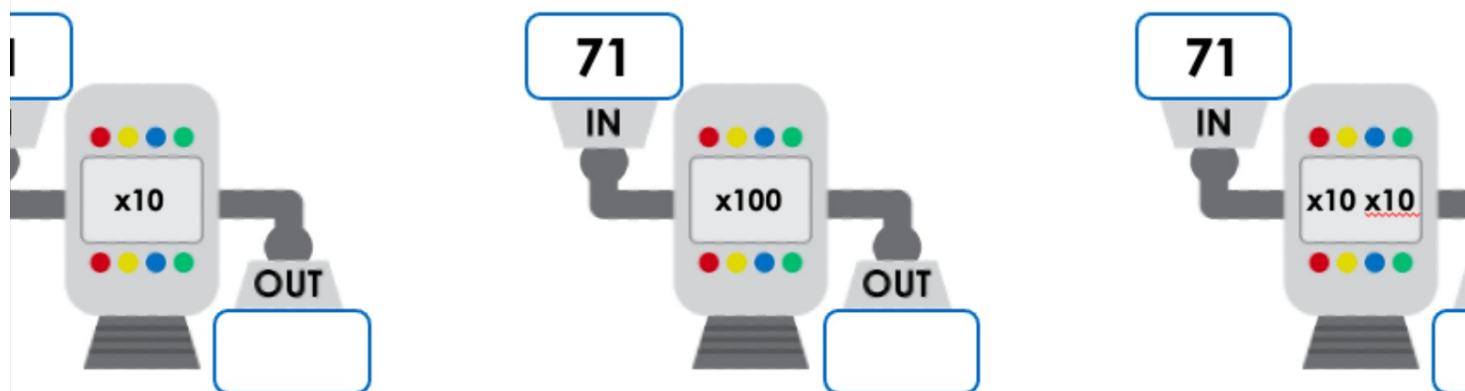
When multiplying by 100, I can multiply by 10 then 10 again.

$4 \times 100 =$

TH	H	T	U
		6	4

What are the missing numbers in the function machines?

Explain how you worked out the answers.



Use the calculation to complete the sentences.

$$3,800 = 38 \times 100$$

There are _____ lots of 38 in _____.

3,800 is _____ times bigger than _____.

$$35 \times 100 =$$

There are 35 lots of 100 in _____.
_____ is 100 times bigger than _____.

$$72 \times 100 =$$

There are 72 lots of 100 in _____.
_____ is 100 times bigger than _____.

$$19 \times 100 =$$

There are 19 lots of 100 in _____.
_____ is 100 times bigger than _____.

Asha finds a bag containing one hundred 5p coins.

How much money is in the bag altogether?



Explain how you know.

Fluency

1.

2.

3.

Problem Solving

1.

going deeper

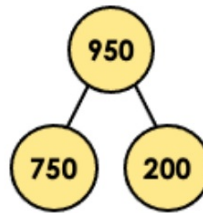
Wenesday

Dividing by ten

Represent the total using PV counters.

$$4,500 + 2,000$$

Four



Write 2 subtraction calculations.

Find the missing digits.

	6	4	5	8
-	?	?	?	?
	4	3	3	8

What is the total when 2,325 is subtracted from 7,650?

Five

Jane believes...

"4,440 + 4,044 is the same as 4,444 + 4,040."



Is Jane correct?
Explain your reasoning!

Answers

1. 6 thousand counters, 5 hundred counters.

2. 4338

3. 5325

4. $950 - 750 = 200$

or $950 - 200 = 750$

Jane is correct.

ards

Use your times tables to complete the number sentences.

$$90 \div 10 = \square$$

$$\square \div 10 = 7$$

$$\square = 40 \div 10$$

$$20 \div 10 = \square$$

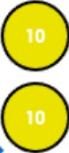
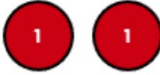

$$10 \div \square = 1$$

$$11 = \square \div 10$$

Let's revisit what we should know...

When we multiply a number by 10, it gets 10 times bigger.

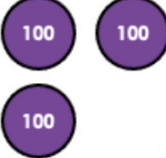



$$32 \times 10 = \underline{\hspace{2cm}}$$

H	T	O
		
		

Each digit moves one place to the left on the place value grid

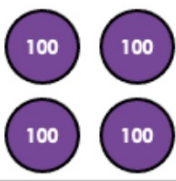

When we divide a number by 10, it gets 10 times smaller

$$320 \div 10 = \underline{\hspace{2cm}}$$

H	T	O
		
		

Each digit moves one place to the right on the place value

$$410 \div 10 = \underline{\hspace{2cm}}$$

H	T	O
		

Use the calculation to complete the sentence.

$$760 = 7,600 \div 10$$

760 is _____ times smaller than _____.

True or false?

$$590 \div 10 = 5,900$$

$$350 \div 10 = 10 \div 35$$

1,750 is ten times smaller than 175.

If I divide 6,010 by 10, I get 610.

Explain your answers.

Which calculation does not have a matching answer card?

$7,040 \div 10$

740

$6,500 \div 10$

$7,400 \div 10$

$6,050 \div 10$

704

Six hundred
and fifty

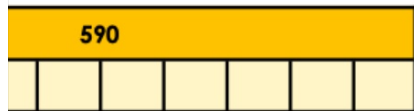
by 10, each digit moves 1 place
it on the place value grid.

o show the answer to $4,200 \div 10$.

H	T	O
100		

FLUENCY 2

plete the bar model.



Divide each number by 10.

FLUENCY 4

Anita used the ingredients below
to make 120 cupcakes.

How much of each ingredient would
she need to make 12 cupcakes?

work c
number i
k

divide b

1300g

11

divide by 10,
the answer goes in
each square

REASONING 1

Darcey has 10 chocolate bars.

Each chocolate bar has 10 squares of chocolate.

The total weight of the bars is 1.2kg.



Each square of chocolate weighs 120g.



Is she correct? Explain your reasoning.

REASONING 2

Which statement is the odd one out?

$$7,600 \div 10 = 760$$

$$42\text{cm} = 420\text{mm}$$

$$5,050\text{mm} = 550\text{cm}$$

$$131 = 1,310 \div 10$$

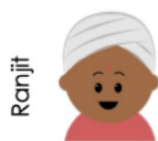
Convince me.

REASONING 3

Millie, Ranjit and Marlon are dividing 490 by 10.



1	0	4	9	0	



$$490 \div 5 \div 5$$



H	T	O
4	9	0

Which method would you choose? Explain why.

PROBLEM SOLVING 1

Use the digit cards to complete the statements.
Each card may only be used once.



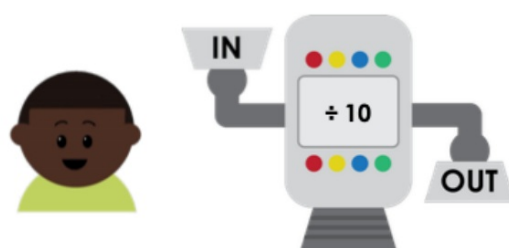
$$\square\square\square\square \div 10 > 204$$

$$\square\square\square\square \div 10 < 670$$

How many possibilities can you find?

PROBLEM SOLVING 2

Caleb puts a number into the function machine.



The number that comes out has between
sixty nine tens and seven hundreds.

It has an even number of ones.

What number could Caleb have put into the function
machine? How many possibilities can you find?

1. $8650 \div 10 =$

2. $9710 \div 10 =$

3. $5460 \div 10 =$

4. $3120 \div 10 =$

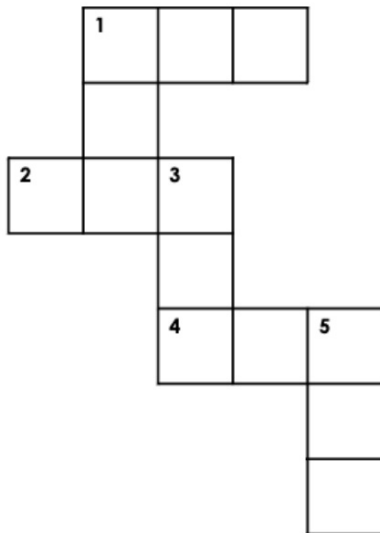
5. $4400 \div 10 =$

6. $6000 \div 10 =$

going deeper

Exit task – Dong Nao Jin

Complete the 'cross number' puzzle using the clues.



ACROSS

1. $7,850 \div 10$
2. 10 times smaller than 2,130
4. $4,580 \div 10$

DOWN

1. Seven thousand and ten \div ten
3. 10 times smaller than 3,940
5. Eight thousand divided by ten

Thursday

Dividing by 100

Complete the bar model.

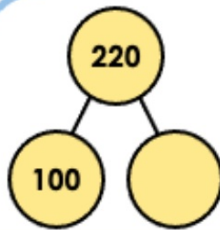
4,102	5,853

Calculate the sum of
2,003 and 4,501.

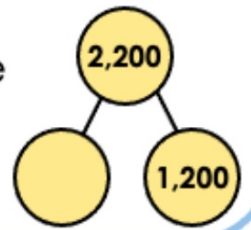
saved £5,000. He spent £2,450
new computer and £1,079 on
games.

How much does he have left?

Four



Complete
the bar
models.



Jerry needs help...

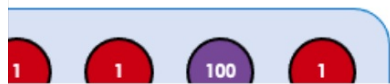


$$5, _ 00 + _, 400 = 8,000$$

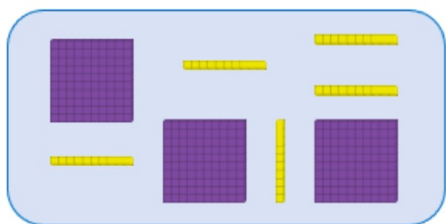
Five

Can you identify the missing
numbers?

Which number is 10 times smaller than three thousand, five hundred?



Thirty five


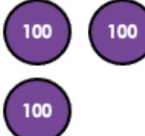
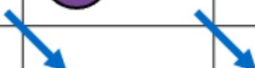


Three hundred and five

Let's revisit what we should know...

When we divide a number by 10, it gets 10 times smaller.


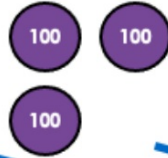

$$2,300 \div 10 = \underline{\hspace{2cm}}$$

TH	H	T	O
			
			

Each digit moves one place to the right on the place value grid.



When we divide a number by 100, it gets 100 times smaller.

$$300 \div 100 = \underline{\hspace{2cm}}$$

TH	H	T	O
			
			

h digit moves two places to the right on the place value grid

$00 \div 100 = \underline{\hspace{2cm}}$

TH	H	T	O
			

Two blue arrows point from the top row to the bottom row, indicating a shift of two places to the right.

Use the calculation to complete the sentence.

$$63 = 6,300 \div 100$$

63 is _____ times smaller than _____.

k

Match the calculations to the correct answers.

$$4,600 \div 10$$

$$4,600 \div 10 \div 10$$

$$6,400 \div 100$$

Four ones
and six tens

Four hundred
and sixty

Six ones and
four tens.

When dividing by 100, I can divide by 10 then 10 again.

TH	H	T	O
5	9	0	0

$$5,900 \div 100 = ?$$

Complete the calculations.

$$5,900 \div 10 = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} \div 10 = \underline{\hspace{2cm}}$$

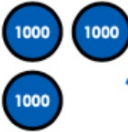

TH	H	T	O
5	9	0	0

Do you get the same answer as the previous slide?

FLUENCY 1

When dividing by 100, each digit moves 2 places to the right on the place value grid.

Draw counters to show the answer to $3,200 \div 100$.

TH	H	T	O
			

FLUENCY 2

Complete the calculations using the division fact.

$$730 = 7,300 \div 10$$

$$7,300 \div 10 \div 10 = \square \quad 7,300 \div \square = 73$$

FLUENCY 3

Which statements have the same answer?

$$2,400 \div 10 \div 10$$

 $\div 100$

One hundred times smaller than 2,600.

FLUENCY 4

Jane has been saving pennies for a year.
She has one thousand, three hundred altogether.



How much money does she have in pounds?

div

REASONING 1

Always, Sometimes or Never?

"When dividing by 100, I can divide by 10 and then divide by 10 again."

Prove your answer with examples.

REASONING 2

A concert ticket costs twenty five pounds.

Darcey



I have two thousand, four hundred pence.

I have two thousand, five hundred pence.



Caleb

Do both Darcey and Caleb have enough to buy tickets?

Explain your reasoning.

REASONING 3

Ranjit, Millie and Alfie are measuring the sunflowers they planted in Science.

Ranjit



Mine is one hundred and thirty centimetres tall.

Millie



Mine is 140cm tall.

Alfie



Mine is one hundred and ten centimetres tall.



Whose sunflowers are taller than 1.2m?

Explain how you know.

PROBLEM SOLVING 1

Jerry is thinking of a 4-digit number.



When he divides his number by ten, then ten again, the answer has five ones and an even number of tens.

What could his number be?

Find 3 possible answers.

PROBLEM SOLVING 2

Use the cards to create comparison statements.

$3,800 \div 10$

$5,100 \div 10 \div 10$

$6,400 \div 10$

$1,500 \div 10 \div 10$

$8,300 \div 100$

$1,500 \div 100$

$5,100 \div 100$

$6,400 \div 100$

$3,800 \div 10 \div 10$

<input type="text"/>	<	<input type="text"/>
<input type="text"/>	=	<input type="text"/>
<input type="text"/>	>	<input type="text"/>

How many possibilities can you find?

What is 'one hundred' in Japanese? Crack the code to find out!

$8,900 \div 10 \div 10$	$980 \div 10$	$7,600 \div 100$	$6,700 \div 10$	$6,700 \div 100$

A	B	C	D	E	F	G	H	I	J	K	L	M
76	60	17	980	61	96	79	89	71	80	670	18	890

N	O	P	Q	R	S	T	U	V	W	X	Y	Z
90	860	760	78	16	70	19	67	69	97	87	98	870

Friday
Multiplying by 0 and 1
Dividing by 1 and itself

Identify the represented number.

900 **50**

Which calculations can you make?

3,021	6,197
9,218	

Asha had 100 £1 coins. How much money did she have altogether?



Calculate...

	2	8	5	4
-	1	5	9	5
<hr/>				

Four

Alfie believes...



“When you add 2 numbers, you can put the numbers in any order.”

Is Alfie correct?
Explain your reasoning!

Five

Answers

One

950

Two

$$3,021 + 6,197 = 9,218$$

$$6,197 + 3,021 = 9,218$$

$$9,218 - 3,021 = 6,197$$

$$9,218 - 6,197 = 3,021$$

Three

£100

Four

	2	4	5	4
-	1	5	9	5
	1	2	5	9

Five

D – Alfie is correct.

A – When you add 2 numbers, you can start with any number.

B – 500 add 300 equals 800. 300 add 500 equals 800. All addition calculations are commutative.

Use your times tables knowledge to complete the calculations

$$2 \times 1 = \square$$

$$1 \times 8 = \square$$

$$4 \times 1 = \square$$

$$1 \times 10 = \square$$

$$6 \times 1 = \square$$

$$1 \times 12 = \square$$

What pattern do you notice?

If you multiply a number by 1, the answer stays the same as the start number.

$$5 \times 1 = 5$$



There are _____ rows.

There is _____ counter in each row.

There are _____ counters altogether
_____ lots of _____ equals _____.

If you multiply a number by 0, the answer is always 0.

$$6 \times 0 = 0$$

$$12 \times 0 = \square$$

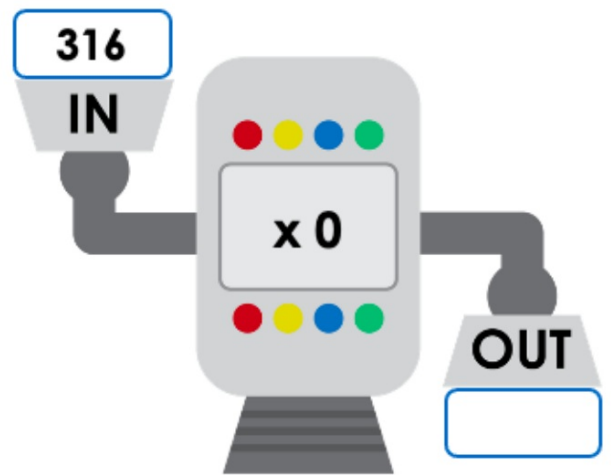
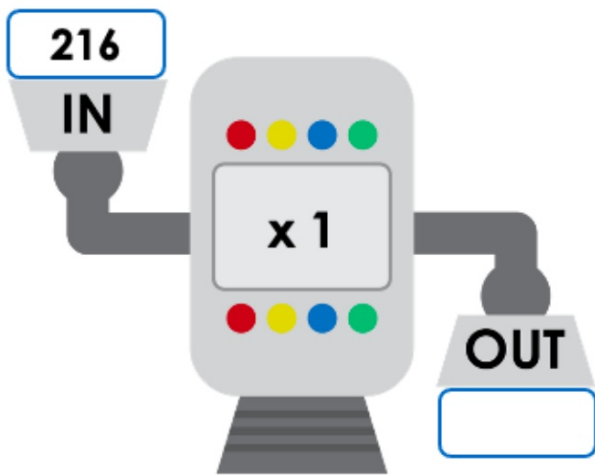
$$0 \times 10 = 0$$

$$0 \times 9 = \square$$

$$8 \times 0 = 0$$

$$11 \times \square = 0$$

Which function machine will create the greatest product? Wh



FLUENCY 1

Complete the stem sentence and the calculations.

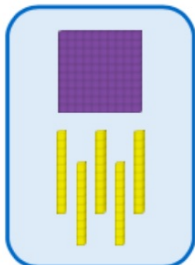
If you multiply a number by one, the answer is the _____ as the start number.

$$9 \times 1 = \square \quad \square \times 12 = 12$$

FLUENCY 2

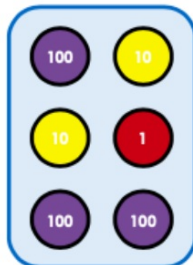
Complete the stem sentence and multiply each number by 0.

If you multiply a number by zero, the answer is the always _____.



Six hundred and fifteen

401



FLUENCY 3

Use >, < and = to compare the number sentences.

$$6 \times 1 \square 1 \times 12$$

$$0 \times 5 \square 18 \times 0$$

$$0 \times 1 \square 1 \times 1$$

FLUENCY 4

Caleb and Millie are making mocktails.



Caleb made 7 mocktails, each containing 1 orange, 0 bananas and 10 raspberries.

Millie made 5 mocktails, each containing 1 orange, 1 banana and 5 raspberries.

Who used the most bananas in their mocktails?

Who used the most oranges?

10 mins - try to finish questions as quickly as possible

REASONING 1

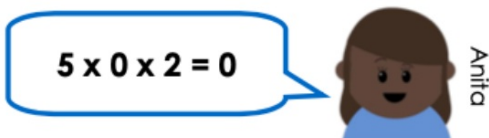
Prove this statement is true!

“If you multiply a number by 0, the answer is 0.”

Explain your reasoning.

REASONING 2

Alfie and Anita are discussing multiplication.



Who is correct? Convince me.

REASONING 3

Which calculation is the odd one out?

Prove it.

$1 \times 14 = 14$

$9 \times 0 = 0$

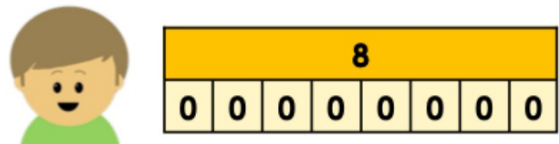
$0 \times 1 = 0$

$6 \times 1 = 1$

REASONING 4

Jerry drew a bar model to represent the calculation:

8×0



Explain the mistake he has made.

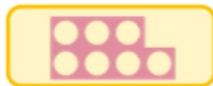
PROBLEM SOLVING 1

Arrange the cards to create three statements.



7×1

0×25



3×0

1×6

How many possibilities can you find?

PROBLEM SOLVING 2

Ranjit and Anna are playing a game.

They each pick 4 digit cards and an operation card.



The winner is the person who can create the smallest number using all of their cards.

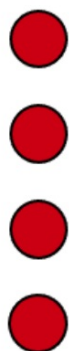
Who will win the game?

What could their winning calculation be?

Find all the possibilities.

If you multiply a number by 1, the answer stays the same as the start number.

$4 \times 1 = \underline{\quad}$



There are rows.

There is counter in each row.

There are counters altogether.

 lots of equals .

If you divide a number by 1, the answer stays the same as the start number.



$$5 \div 1 = 5$$

The sweets are shared into bags.

There are _____ sweets.

There is _____ bag.

The bag has _____ sweets.

If you divide a number (other than 0)
by itself, the answer is 1.



$$5 \div 5 = 1$$

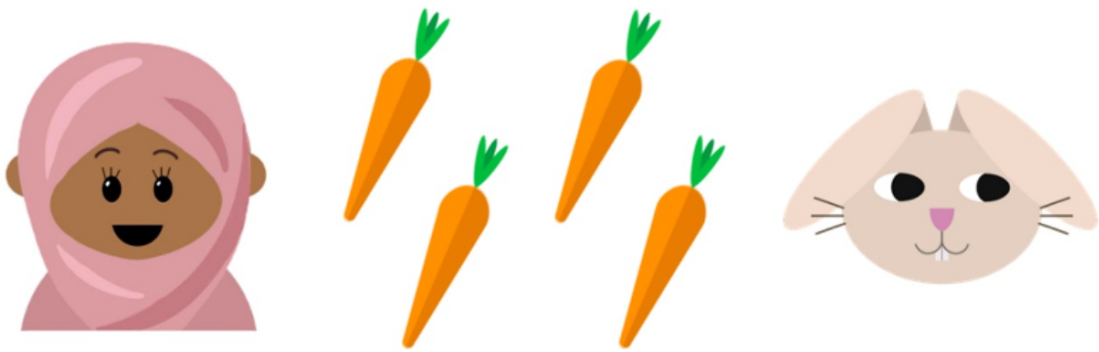
The sweets are shared into bags.

There are _____ sweets.

There are _____ bags.

Each bag has _____ sweet.

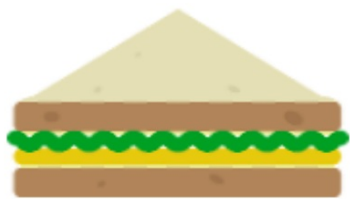
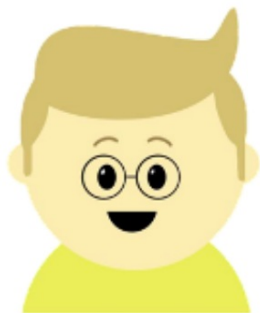
Asha's mum gives her four carrots to feed to their pet rabbit.



How many carrots will the rabbit get?

What is the calculation?

Alfie made nine cheese sandwiches and six ham sandwiches for a picnic.



Fifteen people are going to the picnic altogether.

Has he made enough sandwiches for everyone to have one each? Prove it!

What is the same about multiplying by 1 and dividing by

$$1 \times 13 = 13$$

$$13 \div 1 = 13$$

1. Finish working through fluency questions from worksheet 1
2. Fluency questions from worksheet 2
3. Reasoning and problem solving questions.

FLUENCY 1

Complete the statements.



FLUENCY 2

Complete the number sentences.

$$\boxed{7} \div \boxed{1} = \boxed{}$$

$$\boxed{9} \div \boxed{9} = \boxed{}$$

$$\boxed{8} \div \boxed{} = \boxed{8}$$

$$\boxed{} \div \boxed{12} = \boxed{1}$$

FLUENCY 3

Match each statement to its calculation.

Five grapes grouped in ones

$$10 \div 10$$

Five tickets shared between five

$$5 \div 5$$

Ten children grouped in tens

$$5 \div 1$$

FLUENCY 4

Jane and five of her friends share six cakes.



Complete the number sentence below to show how many cakes each of them has.

$$\boxed{} \div \boxed{} = \boxed{}$$

REASONING 1

Which is the odd one out?

$4 \div 4 = 1$




$4 \div 1 = 4$


Explain your reasoning.

REASONING 2

Caleb and Millie are learning to multiply and divide by 1.



$11 \times 1 = 11$ so $1 \times 11 = 11$



$11 \div 1 = 11$ so $1 \div 11 = 11$

Are they both correct? Explain your reasoning.

REASONING 3

Anita has been learning how to divide a number by itself.



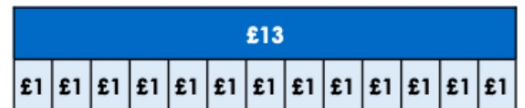
If you divide a number by itself, the answer is 1.

Are there any exceptions to the rule?

Explain your reasoning.

REASONING 4

Ranjit created a bar model to represent the calculation $\pounds 13 \div 1 = \pounds 13$.



Explain the mistake he has made.

PROBLEM SOLVING 1

Asha is thinking of a number.

First, she divides her number by 1.

Then she divides her number by itself.

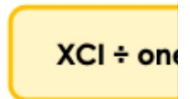
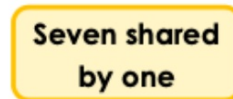
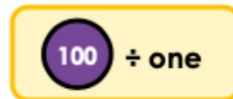
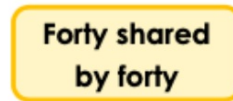
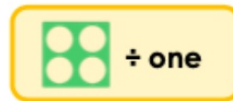
The sum of these numbers is greater than 20 but less than 25.

What could her starting number be?



PROBLEM SOLVING 2

Arrange the cards to complete the statements.



<

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How many possibilities can you find?

1. $745 \times 1 =$

2. $312 \times 0 =$

3. $164 \times 0 =$

4. $5632 \times 1 =$

5. $432 \div 1 =$

6. $127 \div 127 =$

7. $753 \div 1 =$

Match the sentences to their calculations.

Jane found five
£1 coins.

All five bags had
no sweets inside.

The box had five
pens inside.

5×0

1×5

5×1

Can you create a sentence to match the calculation 15×1 ?

