

Year 6 Online maths learning

19/10/2020-23/10/2020

This work is intended to match what is being taught in class this week. Please use the slides to help with your activity. If you know if you have red, orange or green work then choose the correct work. If you are unsure then use the orange learning.

Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-4/>

Multiply 2-digits by 2-digits for more information for home learning.

19/10/2020

L.O: To multiply 2-digits by 2-digits.

R

Starter:

Find the common factors of 24 and 36

Factors means numbers which are multiplied together to find the answer.

Common factors are the factors that 24 and 36 both have.

For example: 6 and 3 are factors of 24 because $6 \times 3 = 24$

3 and 12 are factors of 36 because $3 \times 12 = 36$.

3 so far is a common factor of 24 and 36.

Can you find more?

Find the common factors of 20 and 30

Find the common factors of 28 and 45

Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-4/>

Multiply 2-digits by 2-digits for more information for home learning.

To multiply 2-digits by 2-digits:

23×14 .

Firstly we multiply 23×4 . As we partition 14 into 10 and 4 We can start with the ones of 23 so, $3 \times 4 = 12$. Place the 2 in the ones column and then carry the 1 into the tens column for multiplication.

Now we do multiply then tens, $20 \times 4 = 80$ but we still have 1 ten carried over. So $80 + 10 = 90$

Now we need to multiply the tens: 23×10 . Before we start multiplying we must put a 0, which is place holder to show that we are multiplying the tens.

So we start we the ones again of 23, which 3. So $3 \times 1 = 3$.

Then we will multiply the tens, $2 \times 1 = 2$

Then we add $92 + 230$ using our column addition
 $= 322$

23 x 14

			2	3	
x			1	4	
<hr/>					
			9	2	(23 x 4)
			2	3	0 (23 x 10)
			3	2	2
			1		

Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-4/>

Multiply 2-digits by 2-digits for more information for home learning..

34 x 26

			3	4	
x			2	6	
		2	0	4	(34 x 6)
		6	8	0	(34 x 20)
		8	8	4	

To multiply 2-digits by 2-digits:

$$34 \times 26$$

Firstly we multiply 34×6 . As we partition 26 into 20 and 6 We can start with the ones of 34 so, $4 \times 6 = 24$. Place the 4 in the ones column and then carry the 2 into the tens column for multiplication.

Now we do multiply then tens, $30 \times 6 = 180$ but we still have 2 tens carried over. So $180 + 20 = 200$

Now we need to multiply the tens: 34×20 . Before we start multiplying we must put a 0, which is place holder to show that we are multiplying the tens.

So we start we the ones again of 34, which 4. So $4 \times 2 = 8$

Then we will multiply the tens, $3 \times 2 = 6$

Then we add $204 + 680$ using our column addition
 $= 884$

Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-4/>

Multiply 2-digits by 2-digits for more information for home learning..

We will do this one together, you will need to make sure you are recording in your books. The next one is independent.

58×15

x					
<hr/>					

72×35

x					
<hr/>					

Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-4/>

Multiply 2-digits by 2-digits for more information for home learning..

Now, complete these in your books. Find out what is similar/ what is different.

38×12

39×12

38×11

What's the same? What's different?

Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-4/>

Multiply 2-digits by 2-digits for more information for home learning..

Red group

In your books copy out and complete the multiplication sums. Remember to put a digit in each square and use a ruler.

1.

		1	1
X		1	2

2.

		1	1
X		1	4

3.

		1	2
X		1	5

4.

		1	2
X		1	7

5.

		1	4
X		1	8

6.

		2	1
X		1	9

7.

		2	3
X		1	1

8.

		1	3
X		1	5

9.

		1	5
X		1	8

10.

		1	2
X		1	9

11.

		2	2
X		1	6

12.

		2	4
X		1	1

Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-4/>
 Multiply 2-digits by 2-digits for more information for home learning..

Orange group

In your books copy out and complete the multiplication sums. Remember to put a digit in each square and use a ruler.

1.

		3	6
X		3	2

2.

		4	6
X		3	3

3.

		5	2
X		2	3

4.

		6	1
X		2	5

5.

		7	6
X		3	2

6.

		8	6
X		5	2

7.

		8	6
X		2	8

8.

		9	1
X		3	7

Extension:

Amir has multiplied 47 by 36



		4	7
x		3	6
	2	8	2
	1	4	1
	3	2	3

Alex says,



Amir is wrong because the answer should be 1692 not 323

Who is correct?
 What mistake has been made?

Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-4/>
Multiply 2-digits by 2-digits for more information for home learning.

Green group

In your books copy out and complete the multiplication sums. Remember to put a digit in each square and use a ruler.

1.

		5	4
X		2	6

2.

		9	4
X		5	7

3.


		8	6
X		7	9

4.

		9	4
X		6	7

Complete the reasoning problems in your book.

5. Amir has multiplied 47 by 36



		4	7
x		3	6
	2	8	2
	1	4	1
	3	2	3


Alex says,



Amir is wrong because the answer should be 1692 not 323

Who is correct?
What mistake has been made?

6. Tommy says,



It is not possible to make 999 by multiplying two 2-digit numbers.

Do you agree?
Explain your answer.

Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-4/>

Multiply 3-digits by 2-digits for more information for home learning.

20/10/2020

L.O: To multiply 3-digits by 2-digits.

R

Starter:

Can you remember what a factor is?

Which number's factors make it the odd one out?

12, 30, 54, 42, 32, 48

Can you explain why?

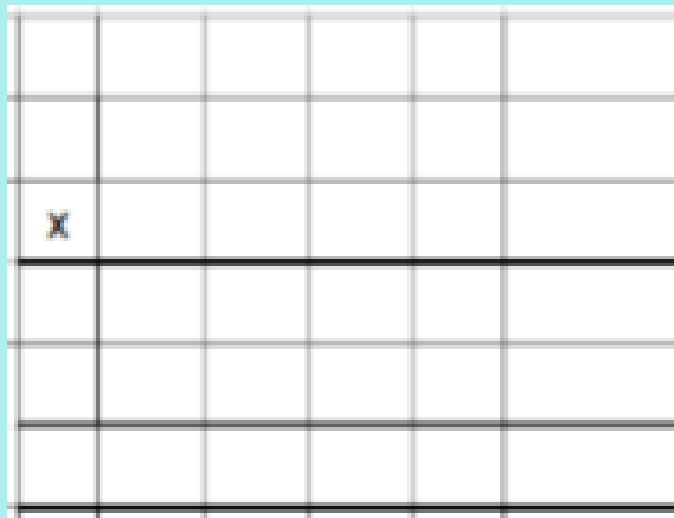
Two numbers have common factors of 4 and 9
What could the numbers be?

Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-4/>

Multiply 3-digits by 2-digits for more information for home learning.

Can you remember how we would multiply 25×63 ?

Can you multiply the numbers on the squared paper?



Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-4/>

Multiply 3-digits by 2-digits for more information for home learning.

Using the same method from multiplying 2-digits by 2-digits, we can apply this to working out 2 digit x 3-digit numbers.

132×14

Complete:

		1	3	2	
×			1	4	
		5	2	8	(132 × 4)
	1	3	2	0	(132 × 10)

To multiply 3-digits by 2-digits:

132×14

Firstly we multiply 132 x 4. As we partition 14 into 10 and 4. We can start with the ones of 132 so, $2 \times 4 = 8$. Place the 8 in the ones .

Now we do multiply then tens, $30 \times 4 = 120$. You don't need to put a zero in the ones because there is an 8 there and $8+0=8$. Place the 2 in the tens and carry the 1 hundred over.

Now we multiply the hundreds, $100 \times 4 = 400$ and carry the hundred over. $100 + 400 = 500$

Now we need to multiply the tens: 132×10 . Before we start multiplying we must put a 0, which is place holder to show that we are multiplying the tens.

So we start we the ones again of 132, which is 2. So $2 \times 10 = 20$. Place the 2 in the tens as we already have a zero in the ones column we don't need to put that in

Then we will multiply the tens, $30 \times 10 = 300$. Place the 3 in the hundreds column.

Then we will multiply the hundreds, $100 \times 10 = 1000$. Place the 1 in the thousands.

Then we add $528 + 1320$ to find the answer.

Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-4/>

Multiply 3-digits by 2-digits for more information for home learning.

Can you complete:

264×14

x					
<hr/>					

264×18

x					
<hr/>					

Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-4/>

Multiply 3-digits by 2-digits for more information for home learning.

In your books can you calculate:

$$637 \times 24$$

$$573 \times 28$$

x					
<hr/>					

x					
<hr/>					

Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-4/>

Multiply 3-digits by 2-digits for more information for home learning.

How would we find out the missing digit?

			4	-	4
x				4	7
		3	1	0	8
	1	7	7	6	0

To find the missing digit:

Start by partitioning the 47 into 40 and 7.

4_4 x 7. start with the ones $4 \times 7 = 28$. Put the 8 down and carry the 2 tens over.

Something multiply $70 + 20 =$ a number with a 0 in the tens.... $70 \times 4 = 280 + 20 = 300$. put the 0 in the tens column, carry the 3 over.

$400 \times 7 = 2800 + 300$ (carried over) = 3100.

So the missing digit is a 4

Use the video from <https://www.youtube.com/watch?v=anae8pfilwY> to help you find out the missing digit.

Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-4/>

Multiply 3-digits by 2-digits for more information for home learning.

Red group

In your books copy and complete the multiplication sums. Remember to lay out your work correctly by putting a digit in each square and use a ruler.

1.

			1	2	3
x			1	1	
<hr/>					

2.

			1	4	1
x			1	2	
<hr/>					

3.

			1	6	2
x			1	3	
<hr/>					

4.

			1	4	1
x			1	5	
<hr/>					

5.

			1	3	3
x			1	2	
<hr/>					

6.

			1	4	2
x			1	4	
<hr/>					

7.

			1	8	1
x			1	1	
<hr/>					

8.

			1	7	2
x			1	3	
<hr/>					

9.

			1	2	6
x			2	5	
<hr/>					

Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-4/>

Multiply 3-digits by 2-digits for more information for home learning.

Orange group

In your books copy out and complete the multiplication sums. Remember to put a digit in each square and use a ruler.

1.

	1	9	4
X		3	7

2.

	2	2	4
X		4	6

3.

	4	3	4
X		2	3

4.

	5	2	1
X		4	5

In your books copy and complete the multiplication sums. Calculate the missing number in these calculations:

5.

		4	-	4	
x			4	7	
		3	1	0	8
	1	7	7	6	0

6.

		2	3	-	
x			2	2	
		4	6	8	
		4	6	8	0

7.

		3	2	8	
x			4	-	
		1	9	6	8
	1	3	1	2	0

8.

		6	5	-	
x			2	9	
		5	8	6	8
	1	3	0	4	0

Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-4/>

Multiply 3-digits by 2-digits for more information for home learning.

Green group

In your books copy and complete the multiplication sums. Calculate the missing number in these calculations:

1.

			-	8	5	
x			2	-		
<hr/>						
			7	7	0	
			7	7	0	0
<hr/>						

2.

			-	5	7		
x			2	-			
<hr/>							
			2	2	7	1	
			3	0	2	8	0
<hr/>							

3.

			-	-	7		
x			5	4			
<hr/>							
			1	7	4	8	
			2	1	8	5	0
<hr/>							

4.

			3	-	4	
x			2	-		
<hr/>						
			1	0	9	2
			7	2	8	0
<hr/>						

5.

			4	6	-		
x			-	5			
<hr/>							
			2	3	1	5	
			2	7	7	8	0
<hr/>							

6.

			7	2	8		
x			-	-			
<hr/>							
			6	5	5	2	
			3	6	4	0	0
<hr/>							

Extension:

Here are examples of Dexter's maths work.

			9	8	7		
x			7	6			
<hr/>							
			5	9	4	2	2
			6	9	4	0	9
<hr/>							
			1	2	8	3	1

			3	2	4			
x			7	8				
<hr/>								
			2	5	9	2		
			2	1	2	6	8	0
<hr/>								
			3	2	7	2		

He has made a mistake in each question. Can you spot it and explain why it is wrong? Complete the mistakes.

Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-4/>
Multiply 3-digits by 2-digits for more information for home learning.

For when you finish,
can you apply your
learning to this task?

A playground is 128 yards by 73 yards.



Calculate the area of the playground.

Area means the space inside the playground.
To find the area we do width x height.

Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-4/>

Multiply 4-digits by 2-digits for more information for home learning.

21/10/2020

L.O: To multiply 4-digits by 2-digits.

Starter:

What is a multiple?

A multiple is the product of multiplying a number by an integer e.g.

12 is a multiple of 3 or 16 is multiple of 4

Can you work out the multiples of 7 and 5?

On a 100 square, shade the first 5 multiples of 7 and then the first 8 multiples of 5

What common multiple of 7 and 5 do you find?

Use this number to find other common multiples of 7 and 5

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

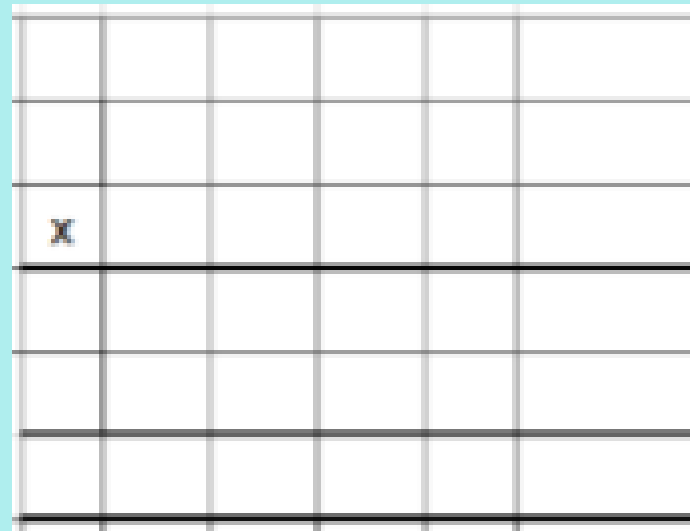
Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-4/>

Multiply 4-digits by 2-digits for more information for home learning.

Can you remember how to multiply:

Can you multiply the numbers on the squared paper?

$$452 \times 25?$$



Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-4/>

Multiply 4-digits by 2-digits for more information for home learning.

$$4267 \times 34$$

		1	2	2	
		4	2	6	7
x		2	3	4	
		1	7	0	6
		2	8	0	1
		4	5	0	7
					8

To multiply 4-digits by 2-digits:

$$4267 \times 34$$

Firstly we multiply 4267×4 . As we partition 34 into 30 and 4. We can start with the ones of 4267 so, $7 \times 4 = 28$. Place the 8 in the ones and carry the 2 tens over.

Now we do multiply then tens, $60 \times 4 = 240$. Add the carried 2 tens. $240 + 20 = 260$ You don't need to put a zero in the ones because there is an 8 there 8. Place the 6 in the tens and carry the 2 hundred over.

Now we multiply the hundreds, $200 \times 4 = 800$ and carry the 2 hundred over. $800 + 200 = 1000$. Place the 0 in the hundred column. Carry the 1 thousand over.

Now $4000 \times 4 = 16000$ and add the carried 1000 over. $16000 + 1000 = 17000$. place the 7 in the thousands and place the 1 in the ten thousand.

Now we need to multiply the tens: 4267×30 . Before we start multiplying we must put a 0, which is place holder to show that we are multiplying the tens.

So we start we the ones again of 4267 which is 7. So $7 \times 30 = 210$. Place the 1 in the tens as we already have a zero in the ones column we don't need to put that in

Then we will multiply the tens, $60 \times 30 = 1800$. Now add the carried 2 hundred over. $1800 + 200 = 2000$. Place the 0 in the hundreds column and carry the 2 thousand over.

Then we will multiply the hundreds, $200 \times 30 = 6000$. Now add the carried 2 thousand over. $6000 + 2000 = 8000$. Place the 8 in the thousands.

Now $4000 \times 30 = 120,000$. Place the 2 in the ten thousand and the 1 in the hundred thousand

Then we add $17068 + 128010$

$$= 145,078$$

Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-4/>

Multiply 4-digits by 2-digits for more information for home learning.

Your turn:

Now, can you try and have a go in your books finding the calculations to:

3046×73

x					
<hr/>					

5734×36

x					
<hr/>					

Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-4/>

Multiply 4-digits by 2-digits for more information for home learning.

Jack made cookies for a bake sale. He made 3445 cookies.

The recipe says that he should have 17 raisins in each cookie. How many raisins did he use altogether?

Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-4/>

Multiply 4-digits by 2-digits for more information for home learning.

Red group

Calculate the multiplication and copy and complete in your books. Remember to put a digit in each square and use a ruler.

1)

	2	2	4
x		1	2
<hr/>			
			0
<hr/>			

2)

	2	1	2
x		1	3
<hr/>			
			0
<hr/>			

3)

	3	5	3
x		1	3
<hr/>			
			0
<hr/>			

4)

	1	0	5	1
x			1	2
<hr/>				
<hr/>				

5)

	4	1	2	3
x			1	6
<hr/>				
<hr/>				

6)

	6	4	4	2
x			1	2
<hr/>				
<hr/>				

7)

	5	0	1	4
x			1	3
<hr/>				
<hr/>				

Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-4/>

Multiply 4-digits by 2-digits for more information for home learning.

Orange and Green group

Complete the multiplication with your partner:

1)

	6	9	4	2
x			7	2

2)

	4	3	3	7
x			8	8

3)

	5	9	7	1
x			6	5

True or False?

- $5,463 \times 18 = 18 \times 5,463$
- I can find the answer to $1,100 \times 28$ by calculating $1,100 \times 30$ and subtracting 2 lots of 1,100
- $702 \times 9 = 701 \times 10$

2 3 4 5 7 8

Place the digits in the boxes to make the largest product.

x				

Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-4/>

Multiply 4-digits by 2-digits for more information for home learning.

For when you finish,
can you apply your
learning to this task?

True or False

2400×24 is the same as 4800×12 ?

$4571 \times 11 = 50,289$

Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-5/>

Divide 4-digits by 1-digit for more information for home learning.

22/10/2020

L.O: To divide 4-digits by 1-digit. R

Starter:

Can you list all the multiples of 3 and 5?

Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-5/>

Divide 4-digits by 1-digit for more information for home learning.

$$4892 \div 4$$

		1	2	2	3
4	4	8	9	2	

To divide 4 digits by 1 digit.

$$4892 \div 4$$

Firstly we work biggest to smallest in place value.

Firstly how many 4's go into 4 (4000) = 1 group of 4. Place the 1 in the thousand column.

Secondly, how many 4's go into 8 (800) = 2 groups of 4 = 8. Place the 2 in the hundred column.

Thirdly, how many 4's go into 9 (90)... well only 2 lots of 4 go into 9 (90) with 1 (10) left over. So we place 2 in the ten column and carry the ten over to the ones.

Finally, how many 4's go into 12... 3

$$4892 \div 4 = 4892$$

Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-5/>

Divide 4-digits by 1-digit for more information for home learning.

6,610 ÷ 5

	1	3	2	2
5	5	5	1	0

To divide 4 digits by 1 digit. (with more than one carrying)

$$6610 \div 5$$

Firstly we work biggest to smallest in place value.

Firstly how many 5's go into 6 (6000)... 1 (1000). Place the 1 in the thousand column and carry the 1 over into the hundreds column for it to become 16.

Secondly, how many 5's go into 16 (1600)... 3 lots of 5 go into 16 (1600) Place the 3 in the hundred column and carry the left over 1 (100) onto the ten's one to become 11 (110)

Thirdly, how many 5's go into 11 (110)... well only 2 lots of 5 go into 11 (110) with 1 (10) left over. So we place 2 in the ten column and carry the ten over to the ones to become 10.

Finally, how many 5's go into 10... 5

$$1322 \div 4 = 6610$$

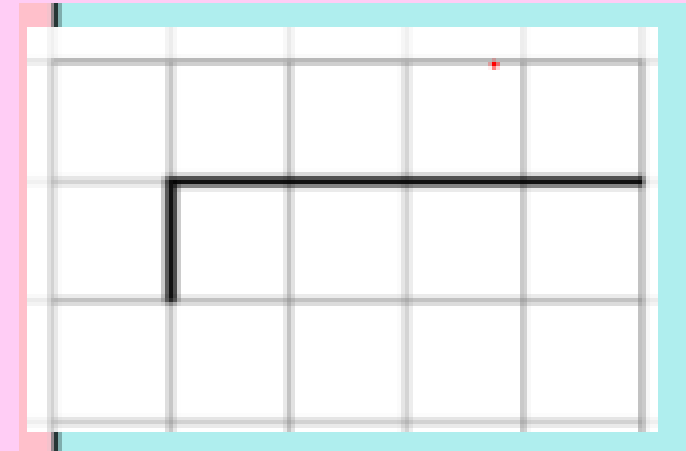
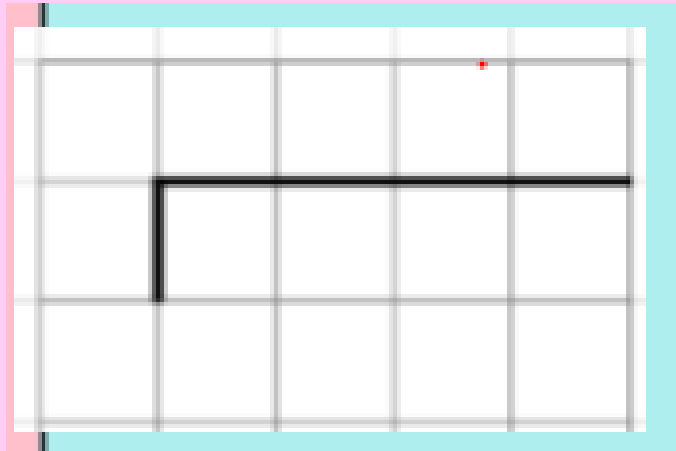
Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-5/>

Divide 4-digits by 1-digit for more information for home learning.

Your turn:

$$2,472 \div 3$$

$$9,360 \div 4$$



Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-5/>

Divide 4-digits by 1-digit for more information for home learning.

Red group

In your books copy out and complete the short division. Remember to put a digit in each square and use your place value counters to help you.

1.

4	4	4	8	4

2.

2	2	6	2	4

3.

2	4	4	6	6

4.

4	8	8	4	4

5.

3	3	6	6	9

6.

3	6	3	9	9

7.

3	3	0	3	9

8.

2	8	0	2	4

9.

4	2	4	8	8

10.

6	1	2	6	0

11.

5	2	5	5	0

12.

5	4	0	5	5

Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-5/>

Divide 4-digits by 1-digit for more information for home learning.

Orange group

In your books copy out and complete the short division. Remember to put a digit in each square and use place value counters to support you if needed.

1.

3	2	7	3	6

2.

9	7	2	0	9

3.

6	8	4	7	8

4.

4	6	8	0	8

5.

2	7	2	7	8

6.

9	6	3	3	6

7.

5	6	5	4	0

8.

7	7	2	7	0

Extension:

Jack is calculating $2240 \div 7$.

He says you can't do it because 7 is larger than all of the digits in the number.

Do you agree with Jack? Explain your answer.

Please use the website: <https://whiterosemaths.com/homelearning/year-6/week-5/>

Divide 4-digits by 1-digit for more information for home learning.

Green group

In your books copy out and complete the short division.

1.

3	2	9	2	5	

2.

9	7	0	7	4	

3.

6	8	5	3	8	

4.

4	6	1	0	0	

5.

2	7	3	7	0	

6.

9	6	8	3	1	

7.

5	6	7	8	0	

8.

7	7	2	2	4	

9.

Jack is calculating $2240 \div 7$.

He says you can't do it because 7 is larger than all of the digits in the number.

Do you agree with Jack? Explain your answer.

10. Look at the division sum below and explain the mistake

	3	1	0	1	
3	9	4	1	4	

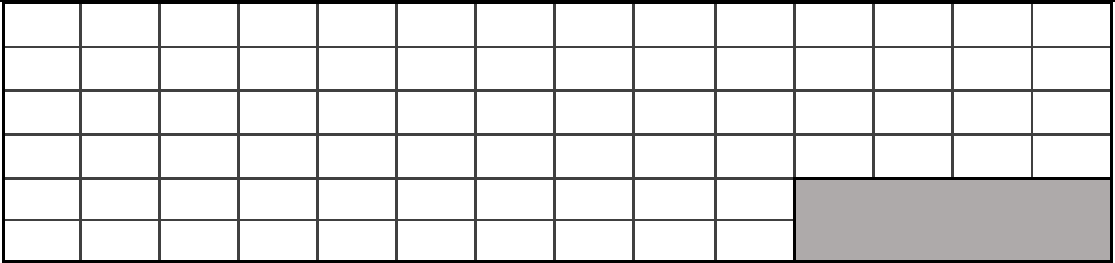

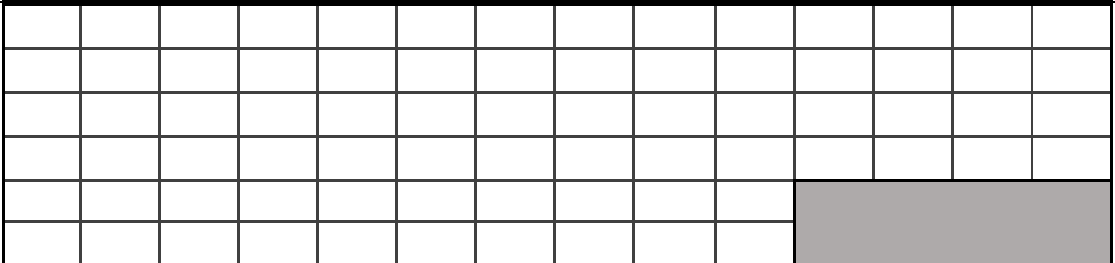

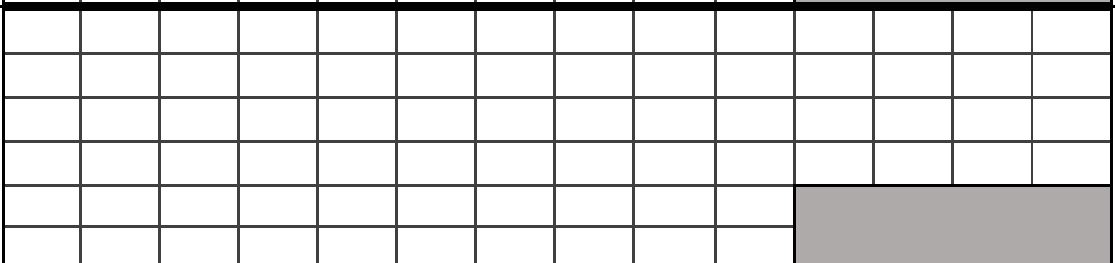

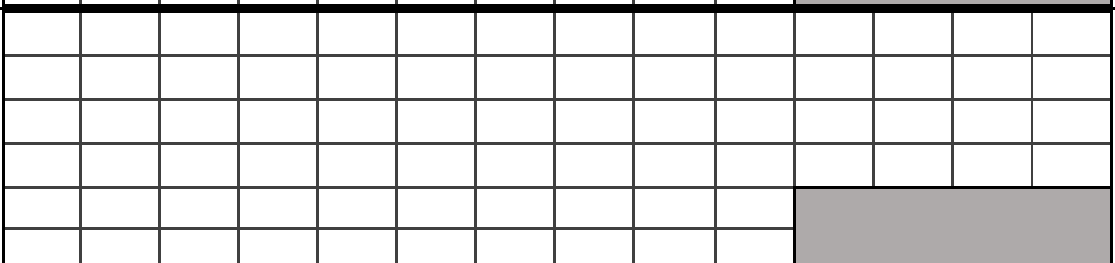

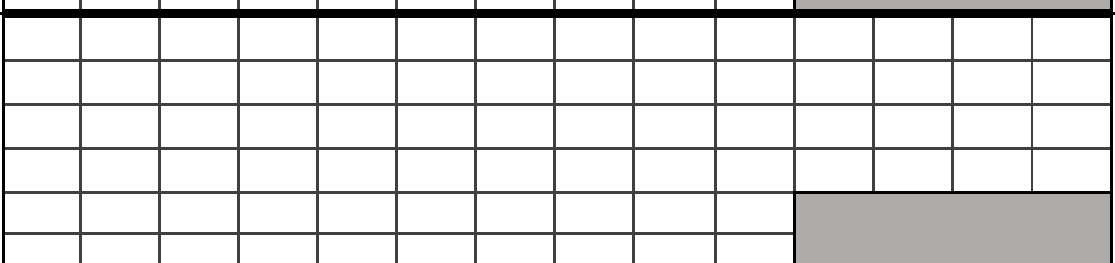

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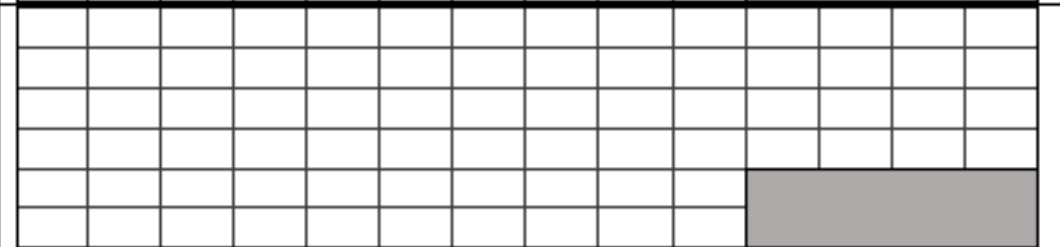

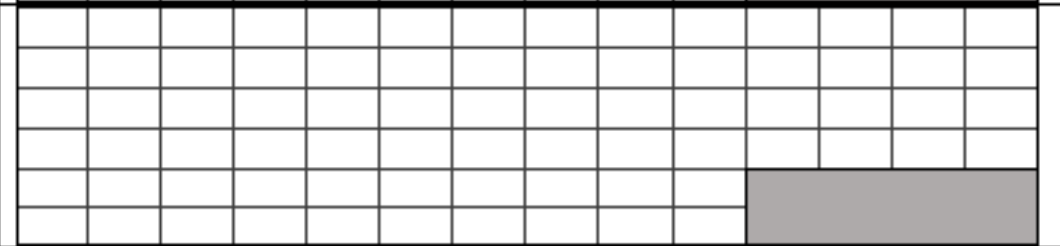

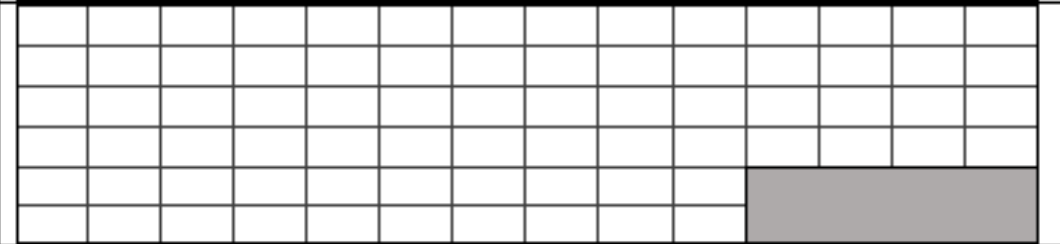

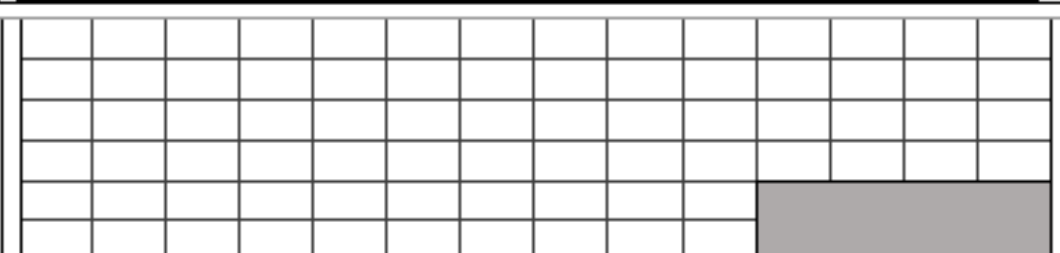

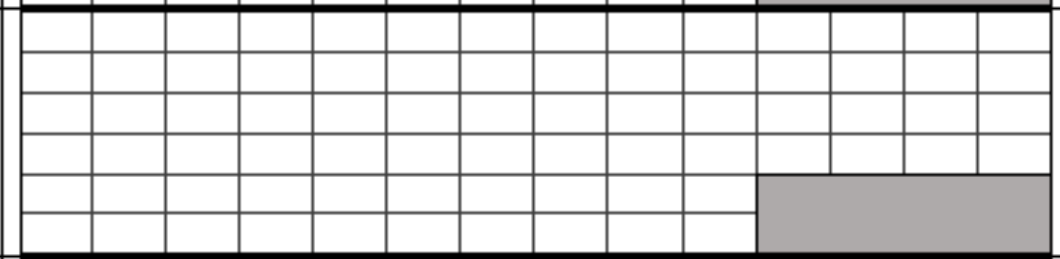

L.O: To complete an arithmetic test.

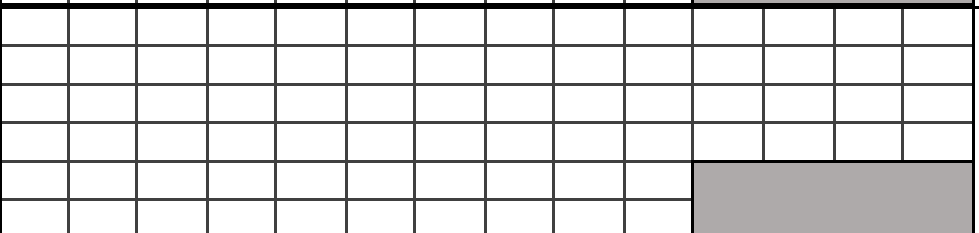

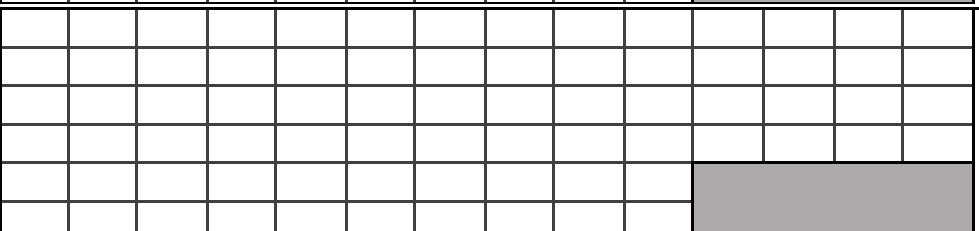

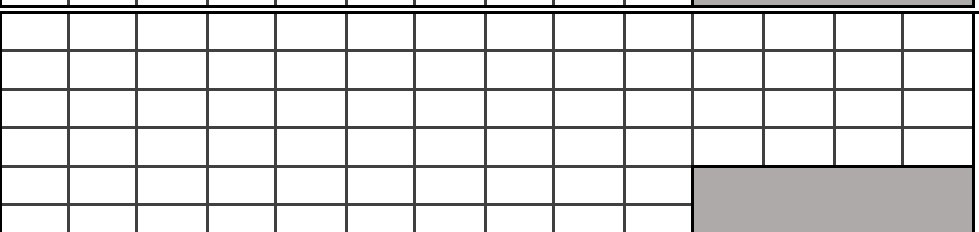

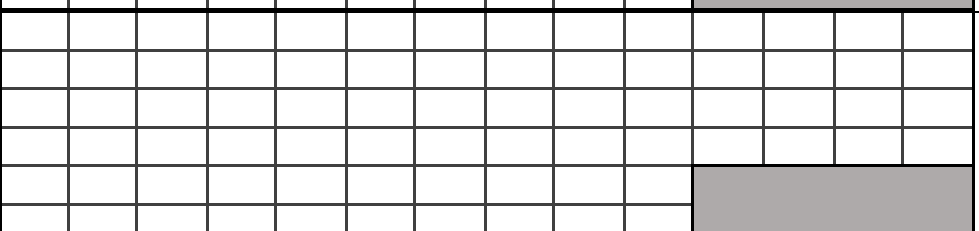

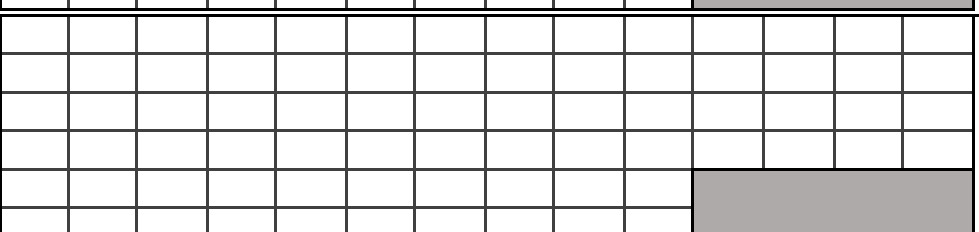

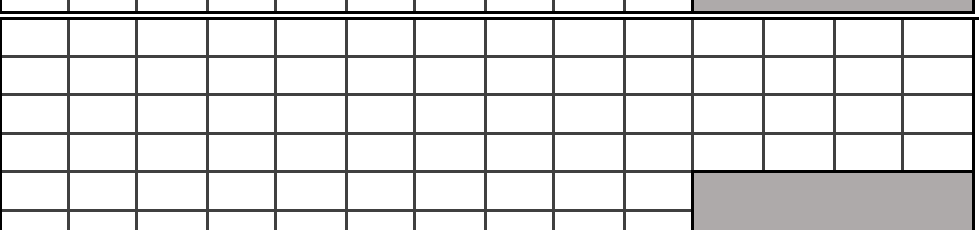

Please give yourself 30 minutes to complete this test. Send your teacher your results!

Use the timer from:

<https://www.youtube.com/watch?v=Xk24DMOInnQ>

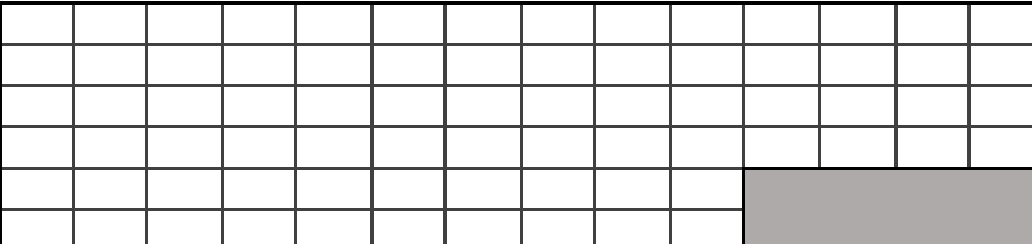

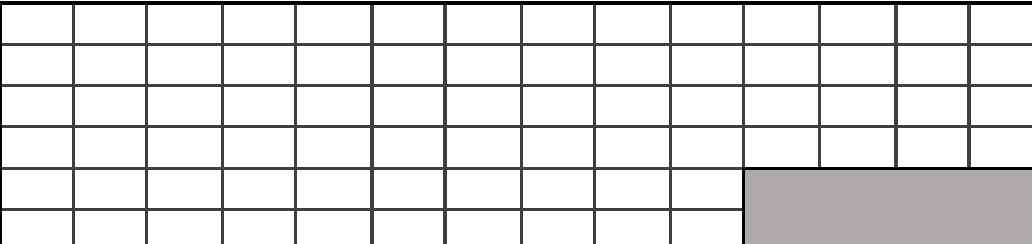

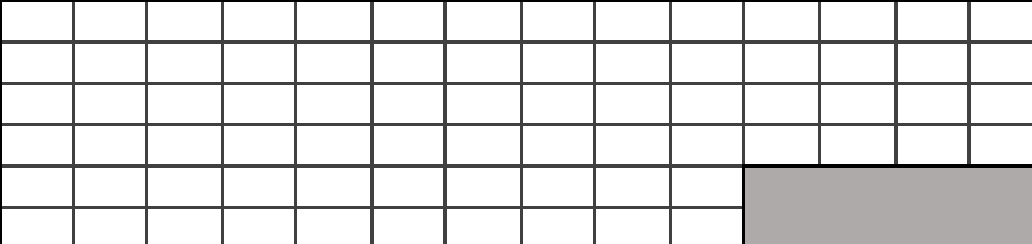

	Question	Working out and answer	Mark
1.	$460 + 100 =$		
2.	$629 - 60 =$		
3.	$96 \div 4 =$		
4.	$\frac{5}{12} + \frac{5}{12} =$		
5.	$\frac{4}{5} - \frac{2}{5} =$		

6.	$1784 + 2773 =$		
7.	$6219 - 549 =$		
8.	$7 \times 8 =$		
9.	$4 \times 3 \times 9$		
10.	$427 \times 6 =$		

11.	$2.8 + 0.6 =$		
12.	$38 + 10 =$		
13.	$\frac{3}{8}$ of 48 =		
14.	$82\,934 + 4155 =$		
15.	$40\,000 - 900 =$		
16.	$839\,325 - 36\,837 =$		

17.	12^3		
18.	900×6		
19.	$3500 \div 50 =$		
20.	$7.03 \times 10 =$		
21.	$\frac{2}{3} + \frac{7}{12} =$		
22.	9 1		

22.	$\frac{9}{10} - \frac{1}{2} =$		
23.	$\frac{7}{8} \times 5 =$		
24.	$3.5 + 4.12 =$		

25.	209 × 34		
26.	7628 × 72		
27.	672 ÷ 8		
28.	7345 ÷ 5	