

Year 6 to 7  
Mathematics Holiday Booklet

**Instructions:**

Complete a section of this booklet each week over  
the summer holidays.

Please bring this booklet with you for your first day  
at Hellesdon High School

Addition using the column method:

# Memory

Column method is used for addition. Line up the units, tens hundreds etc. Then simply start from the right and add the columns together. If you need to then carry over to the next column.

## 1. Whole numbers

Question  $234 + 149$

	H	T	U
	2	3	4
+	1	4	9
<hr/>			
	3	8	3
<hr/>			

$4+9=13$  So we need to put a 1 in the Tens column and the 3 remains in the units column

## Skill 1

$$\begin{array}{r} 3 \\ + 3 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ + 3 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ + 0 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ + 3 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ + 2 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ + 2 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ + 0 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ + 3 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ + 3 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ + 3 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ + 0 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ + 0 \\ \hline \end{array}$$

Addition using the column method:

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Column method is used for addition. Line up the units, tens hundreds etc. Then simply start from the right and add the columns together. If you need to then carry over to the next column.

## 1. Whole numbers

Question  $234 + 149$

	H	T	U
	2	3	4
+	1	4	9
<hr/>			
	3	8	3
<hr/>			

$4+9=13$  So we need to put a 1 in the Tens column and the 3 remains in the units column

## Skill 2

$$\begin{array}{r} 9 \\ + 19 \\ \hline \end{array}$$

$$\begin{array}{r} 71 \\ + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 28 \\ + 32 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ + 31 \\ \hline \end{array}$$

$$\begin{array}{r} 22 \\ + 0 \\ \hline \end{array}$$

$$\begin{array}{r} 68 \\ + 20 \\ \hline \end{array}$$

$$\begin{array}{r} 51 \\ + 28 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ + 33 \\ \hline \end{array}$$

$$\begin{array}{r} 77 \\ + 2 \\ \hline \end{array}$$

$$\begin{array}{r} 23 \\ + 3 \\ \hline \end{array}$$

$$\begin{array}{r} 72 \\ + 24 \\ \hline \end{array}$$

$$\begin{array}{r} 70 \\ + 23 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ + 21 \\ \hline \end{array}$$

$$\begin{array}{r} 75 \\ + 39 \\ \hline \end{array}$$

$$\begin{array}{r} 25 \\ + 9 \\ \hline \end{array}$$

Addition using the column method:

# Memory

Column method is used for addition. Line up the units, tens hundreds etc. Then simply start from the right and add the columns together. If you need to then carry over to the next column.

## 1. Whole numbers

Question  $234 + 149$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{U} \\ + \quad 2 \quad 3 \quad 4 \\ \quad 1 \quad 4 \quad 9 \\ \hline 3 \quad 8 \quad 3 \end{array}$$

$4+9=13$  So we need to put a 1 in the Tens column and the 3 remains in the units column

## Skill 3

- 1)  $\begin{array}{r} \phantom{0} 1 \\ + \quad 327 \\ \quad 145 \\ \hline \phantom{0} 472 \end{array}$     2)  $\begin{array}{r} + \quad 428 \\ \quad 134 \\ \hline \phantom{0} \phantom{0} \end{array}$     3)  $\begin{array}{r} + \quad 505 \\ \quad 165 \\ \hline \phantom{0} \phantom{0} \end{array}$     4)  $\begin{array}{r} + \quad 356 \\ \quad 129 \\ \hline \phantom{0} \phantom{0} \end{array}$
- 5)  $\begin{array}{r} + \quad 427 \\ \quad 344 \\ \hline \phantom{0} \phantom{0} \end{array}$     6)  $\begin{array}{r} + \quad 308 \\ \quad 126 \\ \hline \phantom{0} \phantom{0} \end{array}$     7)  $\begin{array}{r} + \quad 625 \\ \quad 133 \\ \hline \phantom{0} \phantom{0} \end{array}$     8)  $\begin{array}{r} + \quad 357 \\ \quad 326 \\ \hline \phantom{0} \phantom{0} \end{array}$
- 9)  $\begin{array}{r} + \quad 253 \\ \quad 129 \\ \hline \phantom{0} \phantom{0} \end{array}$     10)  $\begin{array}{r} + \quad 438 \\ \quad 217 \\ \hline \phantom{0} \phantom{0} \end{array}$     11)  $\begin{array}{r} + \quad 326 \\ \quad 108 \\ \hline \phantom{0} \phantom{0} \end{array}$     12)  $\begin{array}{r} + \quad 352 \\ \quad 236 \\ \hline \phantom{0} \phantom{0} \end{array}$

Subtraction using the column method:

# Memory

Column method is used for Subtraction. Line up the units, tens hundreds etc. Then simply start from the right and subtract the bottom number from the top. If the top digit is smaller than the bottom digit you will need to borrow from the tens to allow you to subtract.

## 1. Whole numbers

Question 364 - 193

H	T	U	
3	6	4	
-	9	3	
1	7	1	

We cannot take 9 away from 6 so we need to borrow 1 from the Hundreds column to make it 16. That leaves us with a 2 in the Hundreds column.

Skill 1

$$\begin{array}{r} 9 \\ - 2 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ - 2 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ - 2 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ - 0 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ - 2 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ - 4 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ - 5 \\ \hline \end{array}$$

Subtraction using the column method:

# Memory

Column method is used for Subtraction. Line up the units, tens hundreds etc. Then simply start from the right and subtract the bottom number from the top. If the top digit is smaller than the bottom digit you will need to borrow from the tens to allow you to subtract.

## 1. Whole numbers

Question 364 - 193

H	T	U
3	6	4
-	9	3
1	7	1

We cannot take 9 away from 6 so we need to borrow 1 from the Hundreds column to make it 16. That leaves us with a 2 in the Hundreds column.

Skill 2

$$\begin{array}{r} 71 \\ - 18 \\ \hline \end{array}$$

$$\begin{array}{r} 53 \\ - 17 \\ \hline \end{array}$$

$$\begin{array}{r} 63 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 72 \\ - 37 \\ \hline \end{array}$$

$$\begin{array}{r} 77 \\ - 16 \\ \hline \end{array}$$

$$\begin{array}{r} 40 \\ - 4 \\ \hline \end{array}$$

$$\begin{array}{r} 97 \\ - 8 \\ \hline \end{array}$$

$$\begin{array}{r} 91 \\ - 32 \\ \hline \end{array}$$

$$\begin{array}{r} 58 \\ - 25 \\ \hline \end{array}$$

$$\begin{array}{r} 69 \\ - 22 \\ \hline \end{array}$$

$$\begin{array}{r} 56 \\ - 15 \\ \hline \end{array}$$

$$\begin{array}{r} 79 \\ - 23 \\ \hline \end{array}$$

## Subtraction using the column method:

# Memory

Column method is used for Subtraction. Line up the units, tens hundreds etc. Then simply start from the right and subtract the bottom number from the top. If the top digit is smaller than the bottom digit you will need to borrow from the tens to allow you to subtract.

### 1. Whole numbers

Question 364 - 193

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{U} \\ 364 \\ - 193 \\ \hline 171 \end{array}$$

We cannot take 9 away from 6 so we need to borrow 1 from the Hundreds column to make it 16. That leaves us with a 2 in the Hundreds column.

## Skill 3

- |  |   |   |   |
|--|---|---|---|
| 1) $\begin{array}{r} 352 \\ - 147 \\ \hline \end{array}$ | 2) $\begin{array}{r} 743 \\ - 118 \\ \hline \end{array}$  | 3) $\begin{array}{r} 859 \\ - 536 \\ \hline \end{array}$  | 4) $\begin{array}{r} 475 \\ - 328 \\ \hline \end{array}$  |
| 5) $\begin{array}{r} 438 \\ - 229 \\ \hline \end{array}$ | 6) $\begin{array}{r} 670 \\ - 315 \\ \hline \end{array}$  | 7) $\begin{array}{r} 384 \\ - 247 \\ \hline \end{array}$  | 8) $\begin{array}{r} 576 \\ - 327 \\ \hline \end{array}$  |
| 9) $\begin{array}{r} 384 \\ - 66 \\ \hline \end{array}$  | 10) $\begin{array}{r} 843 \\ - 129 \\ \hline \end{array}$ | 11) $\begin{array}{r} 653 \\ - 243 \\ \hline \end{array}$ | 12) $\begin{array}{r} 966 \\ - 458 \\ \hline \end{array}$ |

## Multiplication using the column

# Memory

Column method is used for multiplication. Line up the units, tens hundreds etc. Start by multiplying each digit from the top number by the unit digit of the bottom number. (Always go right to left and carry if need to.). Then below this line add a zero under the units and multiply each digit by the tens digit. Repeat this for all digits in the bottom number adding the number of zeros as appropriate. Then add using the column method to get the final answer.

### 1. Whole numbers

Question  $37 \times 6$

$$\begin{array}{r} \text{H T U} \\ \times \quad 37 \\ \hline \quad \quad 6 \\ \hline 222 \end{array}$$

$6 \times 7$  is 42 so put down the 2 and carry the 4.  
 $6 \times 3$  is 18 but we must add the 4 so it becomes 22.  
Giving us 222

Question  $83 \times 45$

$$\begin{array}{r} \text{Th H T U} \\ \times \quad 83 \\ \hline \quad 45 \\ \hline 3320 \times 40 \\ + 415 \times 5 \\ \hline 3735 \end{array}$$

Multiply 83 by 40 first,  
then multiply 83 by 5.  
To multiplying by 40 is the same as multiplying by 10 then 4.  
Put down your 0 to multiply by 10 then multiply by 4.  $4 \times 3$  is 12 so put down the 2 and carry the 1.  $4 \times 8$  is 32 but we must add the 1 on so it becomes 33. Giving us 3320.  
 $5 \times 3$  is 15 so put down the 5 and carry the 1.  $5 \times 8$  is 40 but we must add the 1 so it becomes 41.  
Giving us 415.  
Add the two answers together.







## 1. Whole numbers

Question  $37 \times 6$

$$\begin{array}{r} \text{H T U} \\ \times \quad 37 \\ \hline \quad 22 \\ \hline \quad 222 \end{array}$$

$6 \times 7$  is 42 so put down the 2 and carry the 4.

$6 \times 3$  is 18 but we must add the 4 so it becomes 22.

Giving us 222

Question  $83 \times 45$

$$\begin{array}{r} \text{Th H T U} \\ \times \quad 83 \\ \hline 3320 \\ + 415 \\ \hline 3735 \end{array}$$

Multiply 83 by 40 first,

then multiply 83 by 5.

To multiplying by 40 is the same as multiplying by 10 then 4.

Put down your 0 to multiply by 10 then multiply by 4.  $4 \times 3$  is 12 so put down the 2 and carry the 1.  $4 \times 8$  is 32 but we must add the 1 on so it becomes 33. Giving

us 3320.

$5 \times 3$  is 15 so put down the 5 and carry the 1.  $5 \times 8$  is 40 but we must add the 1 so it becomes 41.

Giving us 415.

Add the two answers together.

## Skill 3

$$\begin{array}{r} 6 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 0 \\ \hline \end{array}$$

## Skill 4

1. 
$$\begin{array}{r} \text{t u} \\ 48 \\ \times 3 \\ \hline \end{array}$$

\_\_\_\_\_

2. 
$$\begin{array}{r} \text{t u} \\ 57 \\ \times 5 \\ \hline \end{array}$$

\_\_\_\_\_

3. 
$$\begin{array}{r} \text{t u} \\ 79 \\ \times 7 \\ \hline \end{array}$$

\_\_\_\_\_

4. 
$$\begin{array}{r} \text{t u} \\ 63 \\ \times 4 \\ \hline \end{array}$$

\_\_\_\_\_

5. 
$$\begin{array}{r} \text{t u} \\ 86 \\ \times 6 \\ \hline \end{array}$$

\_\_\_\_\_

6. 
$$\begin{array}{r} \text{t u} \\ 74 \\ \times 8 \\ \hline \end{array}$$

\_\_\_\_\_

7. 
$$\begin{array}{r} \text{t u} \\ 93 \\ \times 6 \\ \hline \end{array}$$

\_\_\_\_\_

8. 
$$\begin{array}{r} \text{t u} \\ 62 \\ \times 7 \\ \hline \end{array}$$

\_\_\_\_\_

9. 
$$\begin{array}{r} \text{t u} \\ 75 \\ \times 9 \\ \hline \end{array}$$

\_\_\_\_\_

## Skill 5

1. 
$$\begin{array}{r} \text{h t u} \\ 67 \\ \times 22 \\ \hline \end{array}$$

\_\_\_\_\_

\_\_\_\_\_

2. 
$$\begin{array}{r} \text{h t u} \\ 88 \\ \times 61 \\ \hline \end{array}$$

\_\_\_\_\_

\_\_\_\_\_

3. 
$$\begin{array}{r} \text{h t u} \\ 97 \\ \times 28 \\ \hline \end{array}$$

\_\_\_\_\_

\_\_\_\_\_

4. 
$$\begin{array}{r} \text{h t u} \\ 68 \\ \times 29 \\ \hline \end{array}$$

\_\_\_\_\_

\_\_\_\_\_

5. 
$$\begin{array}{r} \text{h t u} \\ 80 \\ \times 73 \\ \hline \end{array}$$

\_\_\_\_\_

\_\_\_\_\_

6. 
$$\begin{array}{r} \text{h t u} \\ 56 \\ \times 29 \\ \hline \end{array}$$

\_\_\_\_\_

\_\_\_\_\_

## Division using short division (bus stop)

# Memory

Short division, known as bus stop, is used for division. The Number under the bus stop is the number you are dividing by the number that is outside of the bus stop. Find out how many times the number outside the bus stop goes into the first digit from the left of the main number. Write this on top above it and then add how many are left over in front of the next number. This is repeated until it has been applied to all digits.

## Division

### 1. Whole numbers

Question  $648 \div 9$

$$\begin{array}{r} 072 \\ 9 \overline{)648} \end{array}$$

You are dividing by  
9 so write down your  
9 times table to help you.  
9, 18, 27, 36, 45, 54  
63, 72, 81, 90

9 does not go into 6 so  
we put a 0 up top and we  
still have a 6 left.  
9 goes into 64 seven  
times so we put a 7 up  
top and we have 1 left  
over.  
9 goes into 18 twice so  
we put a 2  
up top.  
72 is our answer.

## Skill 1

$40 \div 10 =$

$24 \div 12 =$

$66 \div 11 =$

$9 \div 1 =$

$10 \div 2 =$

$70 \div 7 =$

$12 \div 6 =$

$100 \div 10 =$

$12 \div 12 =$

$28 \div 4 =$

$8 \div 1 =$

$20 \div 5 =$

$36 \div 6 =$

$25 \div 5 =$

$9 \div 9 =$

## Skill 2

$7 \overline{)35}$

$4 \overline{)28}$

$5 \overline{)15}$

$4 \overline{)12}$

$3 \overline{)27}$

$6 \overline{)48}$

$9 \overline{)18}$

$6 \overline{)54}$

$2 \overline{)12}$

$5 \overline{)45}$

$7 \overline{)35}$


$8 \overline{)40}$

Area of squares and rectangles:

**Memory** Area is the inside of a shape.

To find the area of a rectangle.

1	2	3
4	5	6

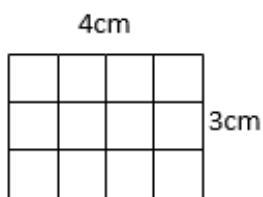


Count the squares  
 $\text{Area} = 6 \text{ cm}^2$

$\text{Area} = \text{Length} \times \text{width.}$   
 $\text{Area} = 9 \times 4 = 36 \text{ cm}^2$

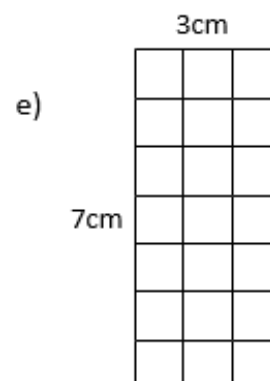
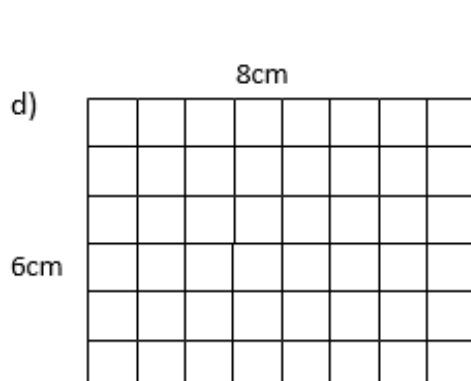
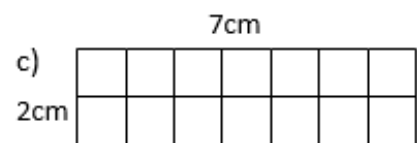
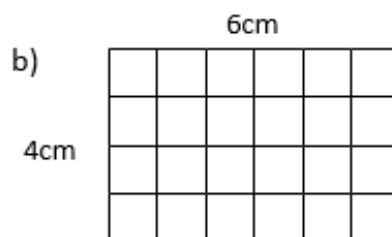
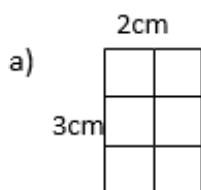
## Skill 1

Example:



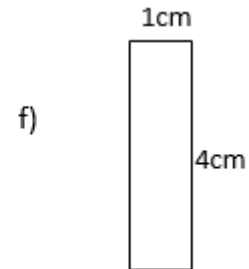
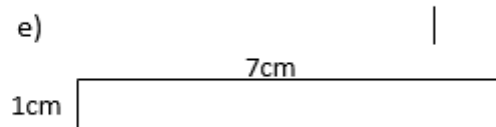
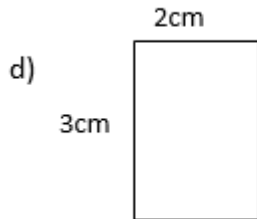
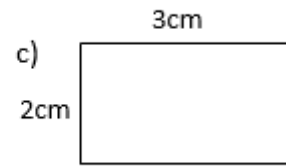
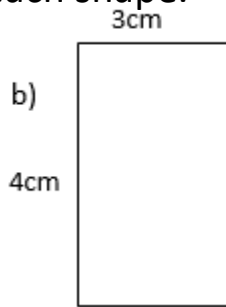
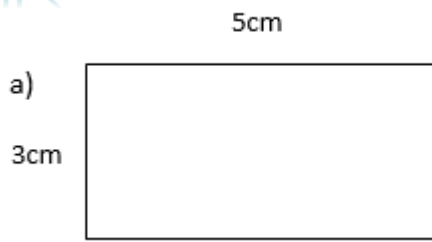
$$4\text{cm} \times 3\text{cm} = 12\text{cm}^2$$

1. Find the area of the following rectangles:



## Skill 2

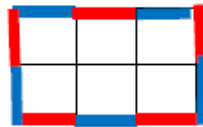
Find the area of each shape.



Perimeter:

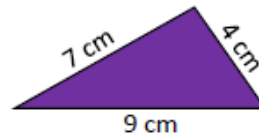
## Memory

Perimeter is the distance around the outside of a shape



Count the outside edges highlighted in blue and red.

Perimeter = 10cm



Add all the edges together.

Perimeter = 4+7+9 = 20cm

## Skill 1

Find the perimeter of each shape

