

Methods Booklet

This booklet contains the methods we use at Hellesdon High School for addition, subtraction, multiplication and division of whole numbers and decimals.

These are the only methods we teach at Hellesdon High and are the only methods we expect the students to use.

This year we will start these methods with all Year 7, 8 and 9 classes of all abilities.

Addition

1. Whole numbers

Question $234 + 149$

	H	T	U
	2	3	4
+	1	4	9
	3	8	3

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

2. Decimals

Question $23.4 + 1.7$

	T	U	.	$\frac{1}{10}$
	2	3	.	4
+		1	.	7
	2	5	.	1

$4+7=11$ So we need to put a 1 in the Units column and the other 1 remains in the $\frac{1}{10}$ ths column

Subtraction

1. Whole numbers

Question 364 - 193

H	T	U	
2 3	1 6	4	
-	1	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.

2. Decimals

Question 2.8 - 0.9

U	.	¹ / ₁₀	
1 2	.	1 8	
-	0	.	9
1	.	9	

We cannot take 9 away from 8 so we need to borrow 1 from the Units column to make it 18. That leaves us with a 1 in the Units column.

Multiplication

1. Whole numbers

Question 37×6

$$\begin{array}{r}
 \text{H T U} \\
 \times \quad 37 \\
 \hline
 \quad 2242 \\
 \hline
 \end{array}$$

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

Question 83×45

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

Multiply 83 by 5 first,
 then multiply 83 by 40.
 5×3 is 15 so put down the 5 and carry the 1. 5×8 is 40 but we must add the 1 so it becomes 41.
 Giving us 415.
 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. 4×3 is 12 so put
 down the 2 and carry the 1. 4×8 is 32 but we must add the 1 on so it becomes 33. Giving
 us 3320.
 Add the two answers together.

2. Decimals

Question 1.9×2.6

19×26

Firstly change your decimals into whole numbers by multiplying each of your numbers by 10

	T	H	T	U
x		1	9	
		2	6	
<hr/>				
	1	1	5	4 <small>x 6</small>
+		3	1	8
		0	x 20	
<hr/>				
		4	9	4
<hr/>				

$494 \div 100$
 $= 4.94$

Now we need to change our answers back into a decimal. At the start we multiplied the first number by 10 then the second number by 10 too.

 $\times 10 \times 10$ is the same as $\times 100$. So now we need to divide by 100 to convert back to a decimal.

Division

1. Whole numbers

Question $648 \div 9$

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

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.

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

2. Decimals

Question $2.24 \div 7$

$$\begin{array}{r} 0.32 \\ 7 \overline{)2.24} \end{array}$$

7 does not go into 2 so we put a 0 up top and we still have a 2 left. (DO NOT FORGET YOUR DECIMAL POINT!)
 7 goes into 22 three times so we put a 3 up top and we have 1 left over.
 7 goes into 14 twice so we put a 2 up top.
 32 is our answer.

You are dividing by 7 so write down your 7 times table to help you.

- 7
- 14
- 21
- 28
- 35
- 42
- 49
- 56
- 63
- 70

