

Have a go at these arithmetic calculations.

1.  $1\frac{3}{4} + \frac{9}{10} =$

2.  $4.2 - 0.6 =$

3.  $758 \times 87 =$

4.  $3146 \div 13 =$

# Maths wow word of the week!

## Term

Click on the  
word for  
the  
definition.

A number or variable in an algebraic  
expression or equation.

Complete as many of these as you can in 3 minutes:

1

$$\frac{3}{15} \div 6 =$$


1 mark

2

$$15\% \text{ of } 48 =$$

1 mark

3. Sketch the shape then colour (or label it) so the ratio of red to green is 3:1

Lesson 10

## Learning Question:

Can I apply what I have learnt to solve calculations?

## Success Criteria:

- Write out calculation
- Choose strategy to solve calculation
- Use techniques learnt to work out calculation
- Use inverse to check answer

## Vocabulary

Add  
More  
Plus  
Make  
Sum  
Subtract  
Minus  
Take away  
Less  
Total  
Order of operations  
Equals  
Column  
Altogether  
Number sentence  
Sign  
Operation  
Symbol



**Personal Target:** What are you going to focus on today?

We are going to do a little bit of practise with addition and subtraction and revising the strategies we can use to solve addition and subtraction calculations.

Have a go at the questions on the following pages. Check the clue to help you choose the correct strategy.

The strategy and answer for each question will appear on the next page to the question.

**Clue:** Only one number will change here. Which one do you think it is?

$$871 + 100 =$$

1 mark

$$871 + 100$$

- You don't need to do a column addition for this.
- Both numbers are 'hundreds'.
- You are adding 100 to 871.
- If you were adding 100 to 800 it would be 900.
- So the 8 is the only digit you will need to change, by adding 1 to it and your total will be 971.

**Clue:** Make sure your decimal points are lined up and if you can't add this in your head, then use the column method.

$$9.2 + 2.4 =$$

1 mark



# 9.2 + 2.4

- There are two ways of solving this calculation – mentally or column addition.
- Mentally: Just add the two numbers before the decimal point ( $9 + 2 = 11$ ) and then add the two digits after the decimal point ( $2 + 4 = 6$ ) which will give you 11.6
- If you can't solve this mentally, use the column addition method but make sure you keep your decimal points aligned:

$$\begin{array}{r} 0.1 \\ 9.2 \\ + 2.4 \\ \hline 11.6 \end{array}$$

- First add the tenths column ( $2 + 4$ )
- Then add the ones column ( $9 + 2$ )
- Make sure you put the decimal point in the same place in the answer.

**Clue:** Place value is the key here. Make sure your ones, tens, hundreds and thousands are lined up!

$$3,807 + 283 =$$

1 mark

# 3807 + 283

	Th	H	T	O
	3	8	0	7
+		2	8	3
	<hr/>			
	4	0	9	0
	<hr/>			
	1		1	

- Ensure your digits are placed in the correct columns.
- First add the ones:  $7 + 3 = 10$
- Put the 0 in the ones column of the answer and carry the 1 from 10 under the tens column.
- Add the tens column:  $0 + 8 = 8$ . Then add in the 1 that has been carried:  $8 + 1 = 9$
- Now add the hundreds column:  $8 + 2 = 10$
- Put the 0 in the hundreds column of the answer and carry the 1 from 10 under the thousands column.

**Clue:** If you can't work this out in your head then use the column method, line up your decimals and add a zero in the blank 'hundredths' space if it helps!

$$8.6 + 1.04 =$$

1 mark

# 8.6 + 1.04

$$\begin{array}{r} \text{O} . \text{ 1/10 } \text{ 1/100} \\ 8 . 6 \text{ 0} \\ + \underline{1 . 0 \text{ 4}} \\ \underline{10 . 6 \text{ 4}} \end{array}$$

- If you can't work this out in your head then use the column method.
- Line up your decimal points and add a zero in the blank 'hundredths' space if it helps.
- Work from right to left, adding each column.

**Clue:** The denominators are the same so this addition should be easy! (Remember, don't add the denominators!)

$$\frac{3}{7} + \frac{2}{7} =$$

1 mark

$$\frac{3}{7} + \frac{2}{7}$$

- As the denominators are the same you just leave them (*don't add them!*)
- Add the numerators:  $3 + 2 = 5$ .
- Your answer becomes  $\frac{5}{7}$

**Clue:** Place value! Use the column method and make sure that your ones, tens, hundreds and thousands are lined up. You will have to carry a 10 here – be careful!

$$6024 + 4789 =$$

1 mark



# 6024 + 4789

	Th	H	T	O
	6	0	2	4
+	<u>4</u>	<u>7</u>	<u>8</u>	<u>9</u>
	<u>10</u>	<u>8</u>	<u>1</u>	<u>3</u>
		1	1	

- Ensure your digits are placed in the correct columns.
- Work from right to left.
- First add the ones:  $4 + 9 = 13$
- Put the 3 in the ones column of the answer and carry the 1 from 13 under the tens column.
- Add the tens column:  $2 + 8 = 10$ . Then add in the 1 that has been carried:  $10 + 1 = 11$
- Put 1 in the tens column of the answer and carry the other 1 from 11 under the hundreds column.
- Now add the hundreds column:  $0 + 7 = 7$ . Add in the 1 that has been carried:  $7 + 1 = 8$ .
- Finally, add the thousands column:  $6 + 4 = 10$ .

**Clue:** You will need to change the denominators so that they are the same first, before adding!

$$\frac{1}{3} + \frac{2}{6} =$$

1 mark

$$\frac{1}{3} + \frac{2}{6}$$

$$\frac{1}{3} \times 2 + \frac{2}{6} \text{ becomes}$$

$$\frac{2}{6} + \frac{2}{6} = \frac{4}{6} = \frac{2}{3}$$

- Find the lowest common denominator: 6
- Change both fractions so they have the same denominator: 6  
*(remember, whatever you do to the bottom, you must do the same to the top).*
- Add the numerators *(do not add the denominators – these now stay as they are).*
- Simplify the answer if needed.

**Clue:** Do this in your head, or make sure you line up your ones, tens, hundreds, thousands and tens of thousands! Remember, you cannot exchange from a zero – try the next column along!

$$30,000 - 700 =$$

1 mark

# 30,000 - 700

10th Th H T O

$$\begin{array}{r} \overset{2}{\cancel{3}} \overset{1}{\cancel{0}} \overset{1}{0} \overset{0}{0} \overset{0}{0} \\ - \quad \quad \quad 7 \ 0 \ 0 \\ \hline \underline{\underline{2 \ 9 \ 3 \ 0 \ 0}} \end{array}$$

- If you can't work this out in your head, you will need to use the column method.
- Make sure you put the digits in the correct columns to ensure place value is correct.
- Work from right to left.
- The first two columns are both  $0 - 0 = 0$ , so just put the 0s in the answer box.
- In the hundreds column you have  $0 - 7$ . You can't take 7 away from nothing (zero) so you have to exchange from the next column – but this is a zero so you have to exchange from the next column along.
- Cross out the digit that is there and reduce it by 1. Carry that one to the next column and repeat until you can put the one with the zero in the hundreds column. This gives you  $10 - 7 = 3$ .
- Then it is just  $9 - 0 = 9$  and  $2 - 0 = 0$

**Clue:** Try writing 28 as 28.00 before you use the column method – this will help you!

$$28 - 7.63 =$$

1 mark

# 28 – 7.63

T O . 1/10 1/100

$$\begin{array}{r} 2\overset{7}{\cancel{8}}.\overset{9}{\cancel{1}0}0 \\ - \quad \underline{7.63} \\ \underline{20.37} \end{array}$$

- Put a decimal point after 28 and add two zeros so your columns are easy to work out.
- Work right to left.
- 0 – 3 is impossible, so you have to exchange. You can't exchange from the next zero as there is nothing there, so you need to exchange from the 8.
- Cross out the 8 and change the 8 to a 7.
- Add the exchanged 1 to the zero in the tenths column to make 10 and then exchange 1 from this to make the 0 in the hundredths column 10. Cross out the 10 in the tenths column and change that to a 9.
- In hundredths column:  $10 - 3 = 7$ . Put 7 in the answer box.
- Tenth column:  $9 - 6 = 3$
- Ones column:  $7 - 7 = 0$
- Tens column:  $2 - 0 = 2$

**Clue:** The '9' in 4**9**.6 and **9**.07 have the same value!

$$49.6 - 9.07 =$$

1 mark



$$49.6 - 9.07$$

- You should be able to work this out in your head, as both 9s have the same value (9 ones) so cancel each other out as you are subtracting 9 ones from 9 ones:

$$\begin{array}{r} \cancel{49}.6 - \cancel{9}.07 \\ 40.6 - 0.07 \end{array} \text{ This leaves you with:}$$

- $40 - 0$  is 40
- $.6 - .07 = .53$
- So your answer will be 40.53

**Clue:** Place value! Line your numbers up! You will have to exchange if the top number is smaller than the bottom number!

$$375,694 - 86,107 =$$

1 mark

# 375,694 - 86,107

Hth 10th Th H T O

$$\begin{array}{r}
 \overset{2}{\cancel{3}} \overset{1}{\cancel{7}} \overset{6}{5} \quad 6 \quad \overset{8}{\cancel{9}} \overset{1}{4} \\
 - \quad \quad 8 \quad 6 \quad 1 \quad 0 \quad 7 \\
 \hline
 2 \quad 8 \quad 9 \quad 5 \quad 8 \quad 7 \\
 \hline
 \end{array}$$

- Work from right to left.
- In the ones column,  $4 - 7$  is impossible so you need to exchange from the tens column.
- Cross out the nine and change it to 8.
- Carry a 1 to the ones column (in effect you are carrying one lot of tens from the tens column so  $10 + 4 = 14$ ). You can now say  $14 - 7 = 7$
- Now the tens column:  $8 - 0 = 8$
- Hundreds column:  $6 - 1 = 5$
- Thousands column: You can't subtract 6 from 5 so you need to exchange from the 10 thousands column. This gives you  $15 - 6 = 9$
- Ten thousands column: you need to exchange from the hundred thousands column.

**Clue:** You will need to convert your mixed number first, followed by changing your denominators, so that they are the same before you subtract!

$$1\frac{1}{6} - \frac{1}{3} =$$

1 mark

$$1 \frac{1}{6} - \frac{1}{3}$$

$$1 \frac{1}{6} \text{ becomes } \frac{7}{6}$$

$$\frac{7}{6} - \frac{1 \times 2}{3 \times 2} \text{ becomes}$$

$$\frac{7}{6} - \frac{2}{6} = \frac{5}{6}$$

- Convert the mixed number to an improper fraction.
- Find the lowest common denominator: 6
- Change both fractions so they have the same denominator: 6 (*remember, whatever you do to the bottom, you must do the same to the top*).
- Subtract the numerators (*do not subtract the denominators – these now stay as they are*).
- Simplify the answer if needed.

*Your task:*

**Complete the questions on the  
worksheet.**

*Plenary:*

Create 3 addition and 3 subtraction questions (with answers) and send them to your teacher so they can include them in future tests!

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