



Maths Home Learning

Remember, all of your home learning, for every subject, can be accessed on Sharepoint.

Learning:

Today we are looking at using the inverse operation. The inverse means to use the opposite calculation. For example if you are + then you would -. If you were to - then you +. If you x then you ÷ and if you were to ÷ then you x.

Starter:

Using our column addition method, can you add together the following sums? Have a go first, then use the notes below to help with your understanding. Some of these are decimals – think about when you add money together. This will help you!

14.41 + 18.69

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145.62 + 245.75

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2684.59 + 1452.57

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It is important that we lay out our column addition correctly because then we will get the correct answer.

Did yours look like this?

14.41 + 18.69

| | | | | | |
|---|---|---|---|---|---|
| | T | U | . | t | h |
| | 1 | 8 | . | 6 | 9 |
| + | 1 | 4 | . | 4 | 1 |
| | 3 | 3 | . | 1 | 0 |

14.41 + 18.69

You should start by adding the digits in the hundredths column.

Add the hundredths 9 + 1 = 10. Write 0 in the hundredths and carry the 1 to the tenths column.

Add the tenths 6 + 4 + 1 (carried over) = 11. Place 1 in the tenths, then place the 1 into the units. Remember don't put anything into the decimal place. It does not move.

Add the units 8 + 4 + 1 (carried over) = 13. Write the 3 in the units and carry the 1 tens into the tens column.

Add the tens 1 + 1 + 1 (carried over) = 3

145.62 + 245.75

| | | | | | | |
|---|---|---|---|---|---|---|
| | H | T | U | . | t | h |
| | 1 | 4 | 5 | . | 6 | 2 |
| + | 2 | 4 | 5 | . | 7 | 5 |
| | 3 | 9 | 1 | . | 3 | 7 |

145.62 + 245.75

You should start by adding the digits in the hundredths column.

Add the hundredths 2 + 5 = 7. Write 7 in the hundredths column.

Add the tenths 6 + 7 = 13. Place 3 in the tenths and carry the 1 over to the units.

Remember don't put anything into the decimal place. It does not move.

Add the units 5 + 5 + 1 (carried over) = 11. Write the 1 in the units and carry the 1 tens into the tens column.

Add the tens 4 + 4 + 1 (carried over) = 9

Add the hundreds 1 + 2 = 3

2684.59 + 1452.57

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | T | H | H | T | U | . | t | h |
| | 2 | 6 | 8 | 4 | . | 5 | 9 | |
| + | 1 | 4 | 5 | 2 | . | 5 | 7 | |
| | 4 | 1 | 3 | 7 | . | 1 | 6 | |

2684.59 + 1452.57

You should start by adding the digits in the hundredths column.

Add the hundredths 9 + 7 Write 6 in the hundredths column. Carry 1 tenth over.

Add the tenths 5 + 5 + 1 (carried over) = 11. Place the 1 in the tenths and carry the 1 unit over. Remember don't put anything into the decimal place. It does not move.

Add the units 4 + 2 + 1 (carried over) = 7. Write the 7 in the tens column.

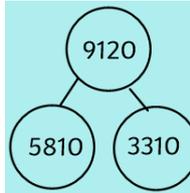
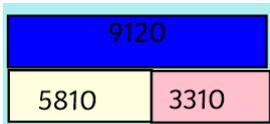
Add the tens 8 + 5 = 13. Place 3 in the tens column and then carry the 1 hundred over.

Add the hundreds 6 + 4 + 1 (carried over) = 11. Write the 1 in the hundreds and then carry the 1 thousand over.

Add the thousands 2 + 1 + 1 (carried over) = 4.

Main:

Firstly, I will talk you through using the inverse. Normally when we use the inverse we use it to check our mistakes.

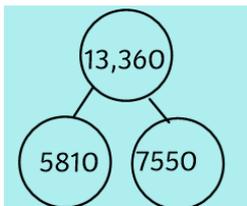
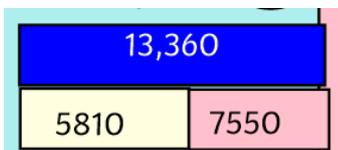


Here we have the number 9120. This can be partitioned by 5810 and 3310. We can use a bar model to help us see how 9120 can be partitioned.

We can also use a part-part whole model to show how 9120 can be partitioned by 5810 and 3310.

We can write this as:

$5810 + 3310 = 9120$ or $3310 + 5810 = 9120$
 we can also write this as $9120 - 3310 = 5810$ or $9120 - 5810 = 3310$



Here is the number 13,360 .

We can partition this with 5810 and 7550 the two variations of the bar model and part-part whole model demonstrate this.

Using the partitioning of the bar model and part-part whole model can you complete the missing number sentence.

Your turn:

_____ + _____ = 13,360 or _____ + _____ = 13,360

_____ - 5810 = _____ or _____ - 7550 = _____

How about using the number sentence: $7506 - 3201 = 4305$ can you write this using the inverse?

_____ + _____ = 7506

_____ + _____ = 7506

Next task:

When calculating $17,468 - 8,947$ which answer gives the corresponding addition question?

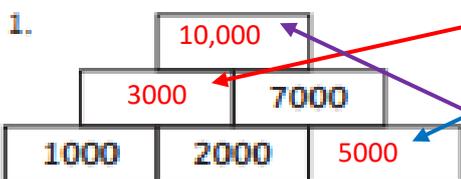
- $8,947 + 8,631 = 17,468$
- $8,947 + 8,521 = 17,468$
- $8,251 + 8,947 = 17,468$

1. Find the answer first.

2. When you have found the answer use it to add with 8947.

3. Which answer is correct?

Task 2:



1. we can see that there are missing boxes and there are only 3 numbers in the boxes: 1000, 2000 and 7000.

2. You can find this box by adding $1000 + 2000 = 3000$.

3. We can find out this box by using the inverse, $7000 - 2000 = 5000$.

4. We can now add 7000 and $3000 = 10,000$ for the top box of the pyramid.

Videos to help:

<https://whiterosemaths.com/homelearning/year-6/week-3/> Please click onto inverse operations (addition and subtraction).

<https://www.youtube.com/watch?v=pRW7hW7l8Jw> – This video talks you through how to use the inverse operation.

<https://www.youtube.com/watch?v=IHtTPSY0aBE> - This video helps you with missing number pyramids. **Some of you may need this with your task!**

Key Vocabulary:

Inverse, addition, subtraction, opposite, units, tens, hundreds, thousands, opposite.

Your task:

Using Inverse Operations to Check Addition and Subtraction Calculations

Check the answers to these calculations using the inverse operation and mark them right or wrong!

| Calculation | Check with Inverse | Correct? |
|---|---|----------|
| $\begin{array}{r} 557 \\ - 278 \\ \hline 277 \end{array}$ <p><i>work backwards!</i></p> | $\begin{array}{r} 277 \\ + 278 \\ \hline 555 \end{array}$ | Wrong! |
| $\begin{array}{r} 87 \\ + 446 \\ \hline 459 \end{array}$ | | |
| $\begin{array}{r} 144 \\ - 75 \\ \hline 69 \end{array}$ | | |
| $\begin{array}{r} 367 \\ + 459 \\ \hline 826 \end{array}$ | | |
| $\begin{array}{r} 674 \\ - 596 \\ \hline 182 \end{array}$ | | |
| $\begin{array}{r} 286 \\ + 1378 \\ \hline 1662 \end{array}$ | | |
| $\begin{array}{r} 1342 \\ - 478 \\ \hline 942 \end{array}$ | | |
| $\begin{array}{r} 2786 \\ + 1512 \\ \hline 4299 \end{array}$ | | |
| $\begin{array}{r} 2457 \\ - 1687 \\ \hline 770 \end{array}$ | | |

On the sheet, complete these pyramids by using the inverse operation to find the missing box.

1.
$$\begin{array}{r} 76680 \\ 43160 \quad \square \\ \hline 21740 \quad 11780 \end{array}$$

2.
$$\begin{array}{r} 94378 \\ 55312 \\ \hline 17452 \quad 21614 \end{array}$$

3.
$$\begin{array}{r} \square \\ \square \quad \square \\ \hline 45607 \quad 25722 \quad 29399 \end{array}$$

4.
$$\begin{array}{r} 222743 \\ \square \quad \square \\ \hline 46290 \quad 66921 \end{array}$$

5.
$$\begin{array}{r} \square \\ 166743 \quad \square \\ \hline 54997 \quad 111746 \quad 113151 \end{array}$$

6.
$$\begin{array}{r} \square \\ 192803 \quad 209184 \\ \hline \square \quad 89999 \quad 119185 \end{array}$$

7.
$$\begin{array}{r} \square \\ 136891 \quad \square \\ \hline 89712 \quad 72166 \end{array}$$

8.
$$\begin{array}{r} 327578 \\ 211345 \quad \square \\ \hline \square \quad 91054 \end{array}$$

1. Complete the missing numbers in the pyramid.

Pyramid 1:

$$\begin{array}{r} 55,907 \\ 6,976 \quad 14,031 \\ 4,946 \quad 3,172 \quad 2,611 \end{array}$$

Pyramid 2:

$$\begin{array}{r} \square \\ 136891 \quad \square \\ \hline 89712 \quad 72166 \end{array}$$

2.

Mo, Whitney, Teddy and Eva collect marbles.

Mo: I have 1,648 marbles.

Whitney: I have double the amount of marbles Mo has.

Teddy: I have half the amount of marbles Mo has.

In total they have 8,524 marbles between them. How many does Eva have?