

SATs Survival: Year 2  
**Parents' Arithmetic  
Practice and  
Revision Activity  
Booklet**



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# Information and Guidance for Parents

This booklet is intended to help you to support your child as they learn, practise and consolidate their arithmetic skills. The booklet is based on the 2016 KS1 SATs Maths Paper 1 (arithmetic) test, and is not a comprehensive guide to all the arithmetic expectations at the end of KS1.

## What Is Arithmetic?

Arithmetic is the branch of maths that focuses on numbers and counting. A good understanding of arithmetic is an essential life skill and there has been a greater focus on arithmetic in schools, since the introduction of the new national curriculum in 2014. In Key Stage 1 (year 1 and year 2), children are taught the following:

- counting on and back in 1s, 2s, 5s and 10s to and from 100;
- using a number line to order numbers and aid calculation;
- understanding the value of the digits in a 2-digit number;
- reading and writing numbers to 100;
- comparing and ordering numbers, e.g. knowing that 56 is less than 65;
- reading and understanding number sentences using the addition (+), subtraction (-), multiplication ( $\times$ ), division ( $\div$ ) and equals (=) signs;
- using 'number bonds' for numbers to 20 (i.e. knowing by heart pairs of numbers that make 5, 10 or 20 to aid mental calculations) and using this knowledge to make calculations up to 100, e.g. if I know  $6 + 4 = 10$ , I also know that  $60 + 40 = 100$ ; multiplication tables and associated division facts for  $2\times$ ,  $5\times$  and  $10\times$  tables;
- adding and subtracting one-digit and two-digit numbers;
- adding 3 numbers;
- knowing that addition and multiplication are commutative (can be done in any order) but subtraction and division are not;
- understanding the relationship between addition and subtraction, and between multiplication and division so that they can solve missing number problems such as  $9 + ? = 14$  and check their own calculations;
- solving problems using addition, subtraction, multiplication and division;
- recognising, finding, naming and writing fractions:  $\frac{1}{4}$ ,  $\frac{1}{3}$ ,  $\frac{1}{4}$ ,  $\frac{2}{4}$  and  $\frac{3}{4}$  of a length, shape, set of objects or quantity;
- writing simple fractions, e.g.  $\frac{1}{2}$  of 6 = 3;
- understanding that  $\frac{1}{2}$  and  $\frac{2}{4}$  are the same.

# Information and Guidance for Parents

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## How to Use This Booklet

It is up to you how you use this booklet but your child should not attempt to plough through it all in one go. There will be areas that your child already understands well, and others where they need a little more practice. You can ask the class teacher which areas they suggest you focus on and you can also ask your child to do the initial quiz on page 6, which will give you an idea of the areas where they may be weaker at and you need to concentrate on. The answers section for this quiz has page references by each question so you can find the practice pages to work on. There is another quiz at the end so that you and your child can see the progress they have made by using this book.

Children are typically taught a range of different ways to carry out calculations in maths. At this stage, whilst many are using mental strategies, others continue to rely on what are called 'concrete' methods – i.e. using objects to help them, or making marks or doing jottings with paper and a pencil. Encourage your child to use whichever method they find most useful and provide them with objects to use, i.e. pieces of dry pasta, beads, buttons or building bricks are all suitable. If your child needs to write things down, encourage them to do so in the space below each question if this helps them to work out the answer.

## Supporting Your Child's Learning and Wellbeing

Sadly, children can become anxious about the prospect of taking tests in school. Try to keep these activities fun and low-key, and only complete a couple of pages when you feel your child is receptive – i.e. not when they are tired, hungry, thirsty or in need of a run around outside. Celebrate progress rather than scores – if your child speeds through a page with ease, that's great, but if they are finding things a little trickier, celebrate their effort and determination, rather than results. You can use the optional reward chart at the end of the pack to reward your child for effort, concentration, progress – whatever you choose. Let your child choose a reward that they would like to receive and work towards that reward. There are also downloadable 'Reward Cheques' available on the Twinkl website.

For practice and revision for the Maths Paper 2 (which focuses on reasoning and features all areas of the Maths curriculum), please see the Twinkl SATs Survival Year 2 Parents' Maths – Reasoning Practice and Revision Activity Booklet.

# Arithmetic Quiz: Initial Assessment

---

1

$8 + 6 = \boxed{\phantom{00}}$



2

$12 - 7 = \boxed{\phantom{00}}$



3

$10 - \boxed{\phantom{00}} = 2$



# Arithmetic Quiz: Initial Assessment

---

4

$52 + 7 =$



5

$4 + 5 + 6 =$



6

$9 \times 10 =$



# Arithmetic Quiz: Initial Assessment

---

7

$3 \times 2 = \boxed{\phantom{00}}$



8

$50 + \boxed{\phantom{00}} = 80$



9

$56 - \boxed{\phantom{00}} = 51$





# Arithmetic Quiz: Initial Assessment

---

10

$10 + 40 + 20 = \boxed{\phantom{000}}$



11

$63 - 10 - 10 = \boxed{\phantom{000}}$



12

$8 \times 5 = \boxed{\phantom{000}}$



# Arithmetic Quiz: Initial Assessment

---

13

$21 + 40 = \boxed{\phantom{00}}$



14

$8 \div 2 = \boxed{\phantom{00}}$



15

$28 + \boxed{\phantom{00}} = 35$







# Arithmetic Quiz: Initial Assessment

---

22

$$\frac{1}{4} \text{ of } 12 = \boxed{\phantom{00}}$$



23

$$71 - 14 = \boxed{\phantom{00}}$$



24

$$\frac{1}{3} \text{ of } 30 = \boxed{\phantom{00}}$$



# Arithmetic Quiz: Initial Assessment

---

25

$\frac{3}{4}$  of 20 =



.....

\*\*END OF TEST\*\*

# Answers: Initial Assessment

<b>1</b>	$8 + 6 = 14$	<a href="#">practice page 15 - 16</a>
<b>2</b>	$12 - 7 = 5$	<a href="#">practice page 17</a>
<b>3</b>	$10 - 8 = 2$	<a href="#">practice page 24 - 28</a>
<b>4</b>	$52 + 7 = 59$	<a href="#">practice page 18 - 19</a>
<b>5</b>	$4 + 5 + 6 = 15$	<a href="#">practice page 29</a>
<b>6</b>	$9 \times 10 = 90$	<a href="#">practice page 31 - 33, 36 - 37</a>
<b>7</b>	$3 \times 2 = 6$	<a href="#">practice page 31 - 33, 36 - 37</a>
<b>8</b>	$50 + 30 = 80$	<a href="#">practice page 40, 31, 20 - 23</a>
<b>9</b>	$56 - 5 = 51$	<a href="#">practice page 31, p24 - 28</a>
<b>10</b>	$10 + 40 + 20 = 70$	<a href="#">practice page 40</a>
<b>11</b>	$63 - 10 - 10 = 43$	<a href="#">practice page 40, 31</a>
<b>12</b>	$8 \times 5 = 40$	<a href="#">practice page 31 - 33, 36 - 37</a>
<b>13</b>	$21 + 40 = 61$	<a href="#">practice page 41 - 44, 31</a>
<b>14</b>	$8 \div 2 = 4$	<a href="#">practice page 34 - 37</a>
<b>15</b>	$28 + 7 = 35$	<a href="#">practice page 20 - 23</a>
<b>16</b>	$69 + 11 = 80$	<a href="#">practice page 41 - 47</a>
<b>17</b>	$6 \times 3 = 18$	<a href="#">practice page 32 - 33, 36 - 37</a>
<b>18</b>	$\frac{1}{2}$ of 16 = 8	<a href="#">practice page 52 - 53</a>
<b>19</b>	$55 + 17 = 72$	<a href="#">practice page 41 - 47</a>
<b>20</b>	$40 \div 10 = 4$	<a href="#">practice page 34 - 37</a>
<b>21</b>	$55 \div 5 = 11$	<a href="#">practice page 34 - 37</a>
<b>22</b>	$\frac{1}{4}$ of 12 = 3	<a href="#">practice page 54 - 55</a>
<b>23</b>	$71 - 14 = 57$	<a href="#">practice page 41 - 47</a>
<b>24</b>	$\frac{1}{3}$ of 30 = 10	<a href="#">practice page 56 - 57</a>
<b>25</b>	$\frac{3}{4}$ of 20 = 15	<a href="#">practice page 58 - 59</a>

# Adding Two Single-Digit Numbers: Bridging 10

## What you need to know:

One of the first concepts children learn is the idea of combining two groups of objects and finding the total. By the end of year 2, many children can do simple calculations in their heads or from memory. This is especially true of the number bonds to 10 and 20 (pairs of numbers which make 10 or 20). By learning these number bonds, children can make rapid mental calculations. They can also use this knowledge to support more complex calculations. In this case, we look at 'bridging 10'. This means that when children are faced with a calculation which crosses a 'tens' number (e.g. 10, 20, 30, etc.), they learn to count on from the first number to the tens number, then add on what they have left. So in the calculation  $8 + 6$ , children take 2 of the 6 to get from 8 to 10, then add the remaining 4 to the 10 to make 14. For more examples of using number bonds, see p29 (Adding 3 Single-Digit Numbers).

First, let's remind ourselves of the number bonds to 10. Fill in the blanks.

$$0 + \square = 10$$

$$1 + \square = 10$$

$$\square + 8 = 10$$

$$\square + 7 = 10$$

$$4 + \square = 10$$

$$\square + 5 = 10$$

$$6 + \square = 10$$

$$7 + \square = 10$$

$$\square + 2 = 10$$

$$9 + \square = 10$$



# Adding Two Single-Digit Numbers: Bridging 10

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Now calculate the answers to these number sentences by 'bridging 10'.

$9 + 4 = \square$

$7 + 7 = \square$

$6 + 8 = \square$

$9 + 8 = \square$

$8 + 4 = \square$

$7 + 4 = \square$

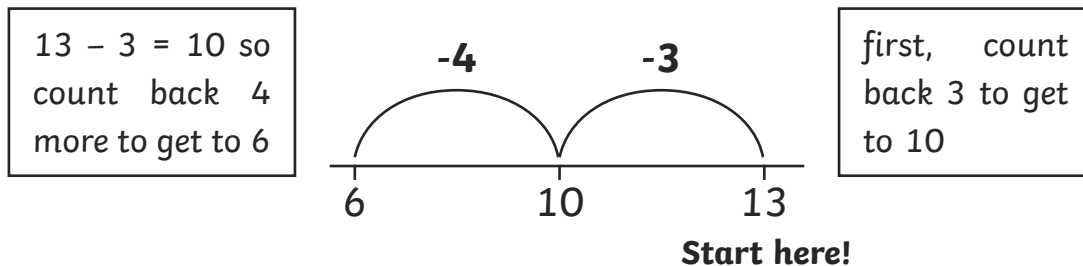
# Subtracting One Single-Digit Number from Another: Bridging 10

## What you need to know:

Children are taught to 'find the difference' between two numbers and to subtract the smaller from the larger and see what is left. By year 2, many children can do simple calculations like these in their heads or from memory. Others may need to make jottings or use objects to help them. In this case, we look at 'bridging 10'. This means that when children are faced with a calculation which crosses a 'tens' number (e.g. 10, 20, 30, etc.), they learn to count back from the first number to the tens number, then subtract what they have left. So in the calculation  $14 - 6$ , children count back 4 to get to 10, then count back the remaining 2 to get to 8. Knowing their number bonds to 10 helps with the second part of this calculation (see previous page). It can be helpful for children to use a number line to count back, and this is what we will look at here.

We are going to use a number line to do a subtraction calculation.

The calculation is  $13 - 7 = 6$



Make number lines to solve these subtractions.

$14 - 8 =$

$18 - 9 =$

$15 - 7 =$

$12 - 9 =$

# Calculating with 2-Digit and 1-Digit Numbers

## What you need to know:

Once children are confident adding and subtracting two single-digit numbers, they can move on to adding a single-digit number to a two-digit number, or subtracting a single-digit number from a two-digit number. Their knowledge of place value should help them to understand that, provided the number stays within the 'ten', they simply need to focus on the 'ones' digits.

If we know that:

$$5 + 2 = 7$$

then we also know that:

$$45 + 2 = 47$$

If we know that:

$$3 + 3 = 6$$

then we also know that:

$$63 + 3 = 66$$

**Subtraction works in the same way.**

If we know that:

$$9 - 1 = 8$$

then we also know that:

$$99 - 1 = 98$$

If we know that:

$$7 - 2 = 5$$

then we also know that:

$$17 - 2 = 15$$

You just have to remember to carry the tens digit over from the first number.

**Try the practice questions on the next page.**

# Adding and Subtracting with 2-Digit and 1-Digit Numbers

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$43 + 2 =$

$21 + 5 =$

$36 + 3 =$

$88 + 1 =$

$56 - 4 =$

$14 - 2 =$

$67 - 6 =$

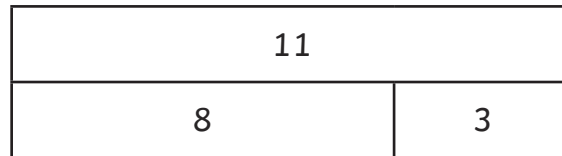
$39 - 5 =$

# Missing Number Problems (Addition) Using Bar Models

## What you need to know:

Children are showing true 'mastery' (deep understanding) of arithmetic when they can use their knowledge of the relationship between addition and subtraction to solve problems, where the answer is given but one of the other elements is missing. Many schools teach the 'bar model' or 'part-part-whole' methods. Both methods attempt to show the relationship between the numbers within a number sentence.

A bar model shows us how two numbers combine to make another number. For example, look at this bar model:



This model shows us all of these calculations:

$$8 + 3 = 11$$

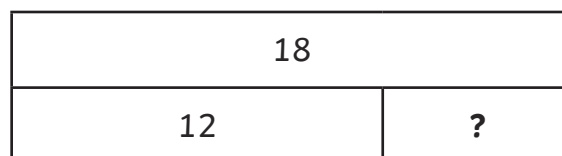
$$3 + 8 = 11$$

$$11 - 8 = 3$$

$$11 - 3 = 8$$

We can use bar models to solve missing number calculations, by filling in the numbers we do know and using them to work out the missing number. For example:

$$12 + \square = 18$$

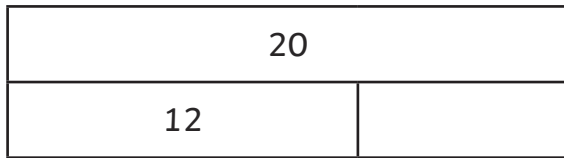


We can calculate the missing number by looking at the size of each bar. In this case,  $18 - 12 = 6$  so  $12 + 6 = 18$ .

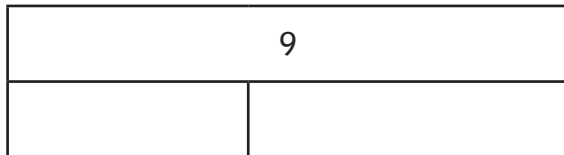
# Missing Number Problems (Addition) Using Bar Models

Use bar models to solve these missing number problems.

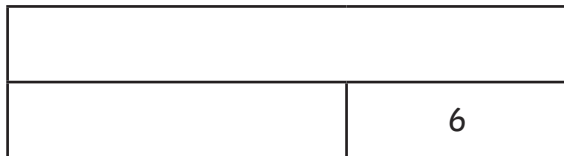
1.  $12 + \square = 20$



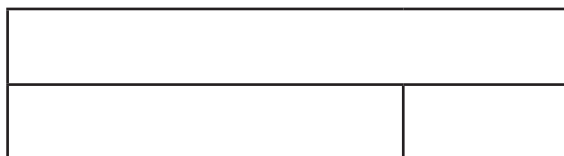
2.  $\square + 5 = 9$



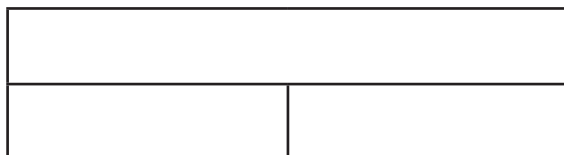
3.  $\square + 6 = 17$



4.  $9 + \square = 14$



5.  $8 + \square = 16$

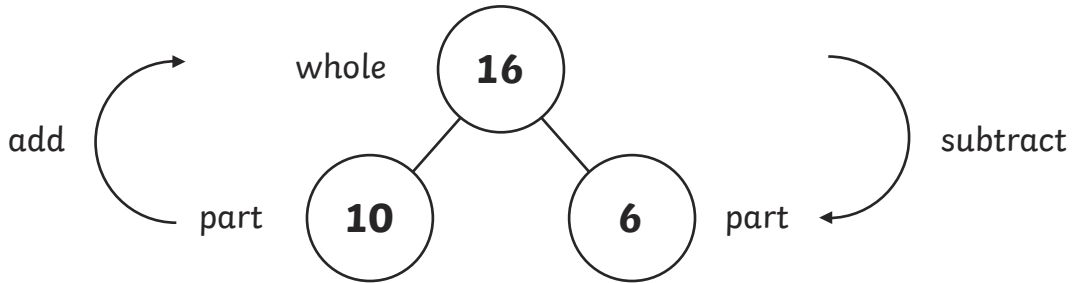


# Missing Number Problems (Addition) Using 'Part-Part-Whole'

## What you need to know:

Children are showing true 'mastery' (deep understanding) of arithmetic when they can use their knowledge of the relationship between addition and subtraction to solve problems, where the answer is given but one of the other elements is missing. Many schools teach the 'bar model' or 'part-part-whole' methods. Both methods attempt to show the relationship between the numbers within a number sentence.

A 'part part-whole' model shows us how two numbers combine to make another number. For example:



This model shows us all of these calculations:

$$10 + 6 = 16$$

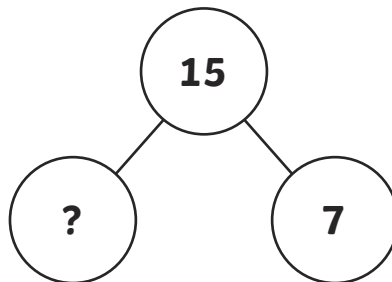
$$6 + 10 = 16$$

$$16 - 10 = 6$$

$$16 - 6 = 10$$

We can use the 'part-part-whole' model to solve missing number calculations, by filling in the numbers we do know and using them to work out the missing number. For example:

$$\square + 7 = 15$$

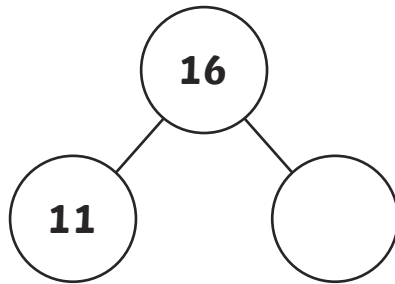


By filling in the numbers we know, we can calculate the missing number. In this case,  $15 - 7 = 8$  so  $8 + 7 = 15$ .

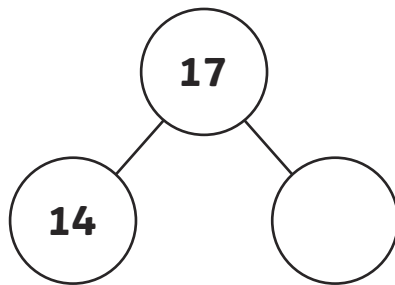
# Missing Number Problems (Addition) Using 'Part-Part-Whole'

Use 'part-part-whole' models to solve these missing number problems.

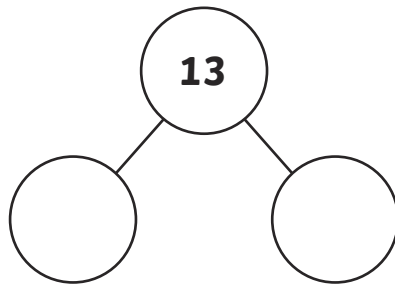
1.  $11 + \square = 16$



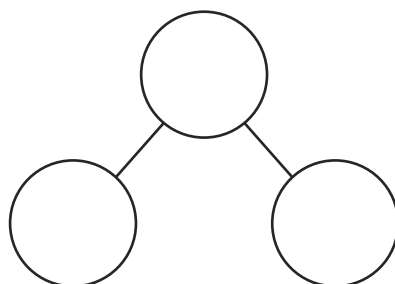
2.  $14 + \square = 17$



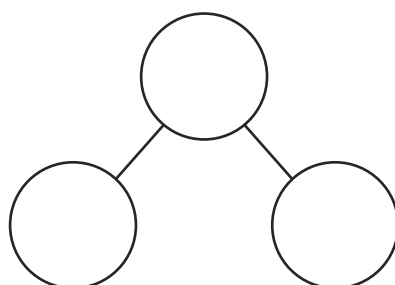
3.  $\square + 9 = 13$



4.  $\square + 7 = 11$



5.  $8 + \square = 12$



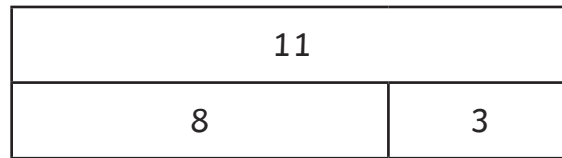


# Missing Number Problems (Subtraction) Using Bar Models

## What you need to know:

Children are showing true 'mastery' (deep understanding) of arithmetic when they can use their knowledge of the relationship between addition and subtraction to solve problems, where the answer is given but one of the other elements is missing. Many schools teach the 'bar model' or 'part-part-whole' methods. Both methods attempt to show the relationship between the numbers within a number sentence.

A bar model shows us how two numbers combine to make another number. For example, look at this bar model:



This model shows us all of these calculations:

$$8 + 3 = 11$$

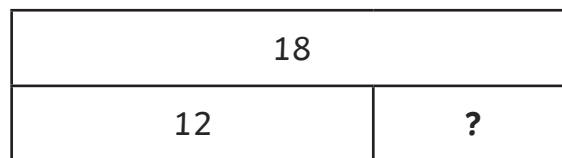
$$3 + 8 = 11$$

$$11 - 8 = 3$$

$$11 - 3 = 8$$

We can use bar models to solve missing number calculations, by filling in the numbers we do know and using them to work out the missing number. For example:

$$18 - \square = 12$$

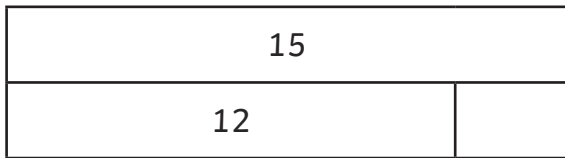


We can calculate the missing number by looking at the size of each bar. In this case,  $18 - 12 = 6$  so  $18 - 6 = 12$ .

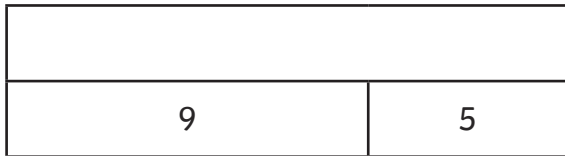
# Missing Number Problems (Subtraction) Using Bar Models

Use bar models to solve these missing number problems. Don't forget that in subtraction calculations, the first number in the number sentence is always the 'whole' number that goes in the top bar.

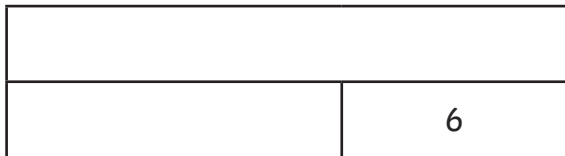
1.  $15 - \square = 12$



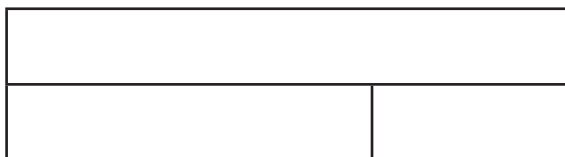
2.  $\square - 5 = 9$



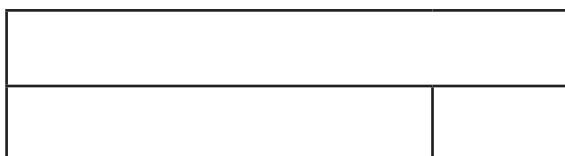
3.  $\square - 6 = 14$



4.  $9 - \square = 4$



5.  $\square - 3 = 16$

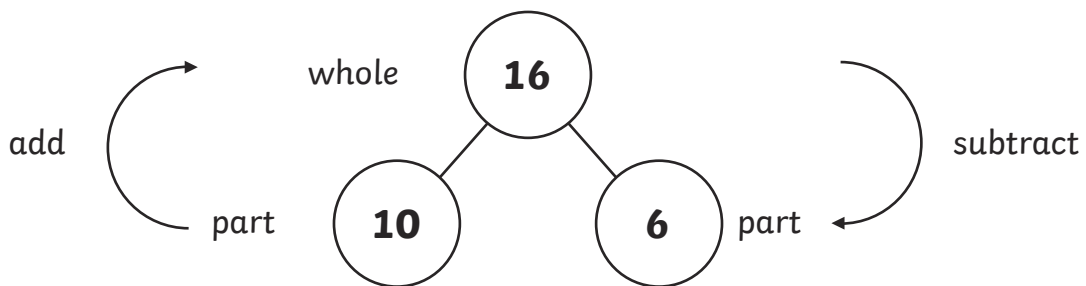


# Missing Number Problems (Subtraction) Using 'Part-Part-Whole'

## What you need to know:

Children are showing true 'mastery' (deep understanding) of arithmetic when they can use their knowledge of the relationship between addition and subtraction to solve problems, where the answer is given but one of the other elements is missing. Many schools teach the 'bar model' or 'part-part-whole' methods. Both methods attempt to show the relationship between the numbers within a number sentence.

A 'part part-whole' model shows us how two numbers combine to make another number. For example:



This model shows us all of these calculations:

$$10 + 6 = 16$$

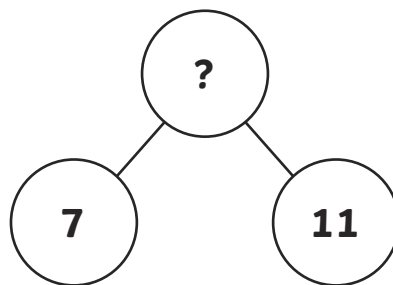
$$6 + 10 = 16$$

$$16 - 10 = 6$$

$$16 - 6 = 10$$

We can use the 'part-part-whole' model to solve missing number calculations, by filling in the numbers we do know and using them to work out the missing number. For example:

$$\square - 7 = 11$$

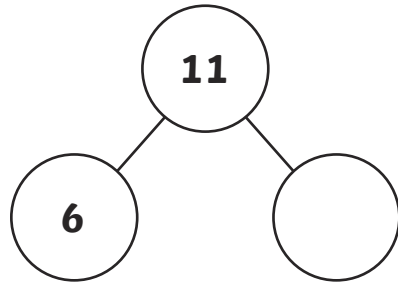


By filling in the numbers we know, we can calculate the missing number. In this case,  $11 + 7 = 18$  so  $18 - 7 = 11$ .

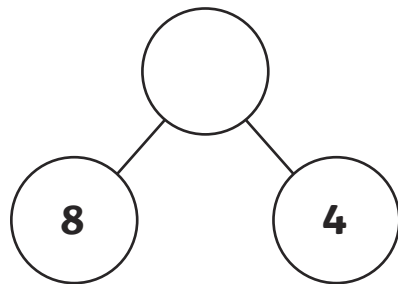
## Missing Number Problems (Subtraction) Using 'Part-Part-Whole'

Use 'part-part-whole' models to solve these missing number problems. Don't forget that in subtraction calculations, the first number in the number sentence is always the 'whole' number.

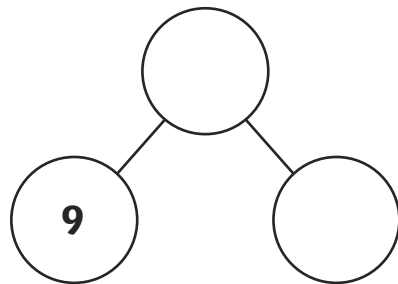
1.  $11 - \square = 6$



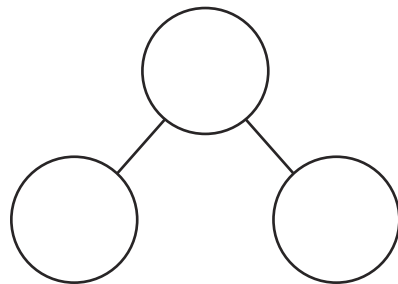
2.  $\square - 4 = 8$



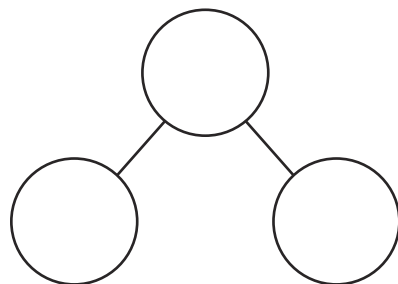
3.  $\square - 9 = 11$



4.  $\square - 7 = 11$



5.  $8 - \square = 3$



## Missing Number Problems: Bringing It All Together

Use bar models or 'part-part-whole' models to solve these missing number problems. Don't forget to check carefully whether the sign is '+' or '-'.

$$6 + \boxed{\phantom{00}} = 14$$

$$8 + \boxed{\phantom{00}} = 12$$

$$14 - \boxed{\phantom{00}} = 8$$

$$\boxed{\phantom{00}} + 7 = 14$$

$$16 - \boxed{\phantom{00}} = 8$$

$$\boxed{\phantom{00}} - 3 = 14$$

# Adding Three Single-Digit Numbers Using Number Bonds to 10

## What you need to know:

One of the first concepts children learn is the idea of combining two, then three groups of objects and finding the total. By the end of year 2, many children can do simple calculations in their heads or from memory. This is especially true of the number bonds to 10 and 20 (pairs of numbers which make 10 or 20). By learning these number bonds, children can make rapid mental calculations. They can also use this knowledge to support more complex calculations. In this case, we look at adding three single-digit numbers. In these calculations, children are taught first, to look for pairs of numbers that make 10, and then add the third number on. For more examples of using number bonds, see p15 (Adding 2 Single-Digit Numbers).

## How We Add 3 Numbers

Look at the three numbers you need to add. Find a pair of numbers that make 10 and circle these numbers. Now you have made 10, you can add the final number on. Easy!

$$\textcircled{6} + 2 + \textcircled{4} = \textcircled{10} + 2 = 12$$

Now calculate the answers to these number sentences by using number bonds to 10.

$8 + 4 + 2 = \square$

$9 + 9 + 1 = \square$

$4 + 6 + 8 = \square$

$5 + 3 + 5 = \square$

$7 + 4 + 3 = \square$

$9 + 6 + 4 = \square$

$2 + 2 + 8 = \square$

$5 + 9 + 1 = \square$

# Counting in 2s, 5s and 10s

## What you need to know:

Children usually find it quite easy to learn to count on and back in 2s, 5s and 10s and the best way for them to learn how to do this is lots of practice and repetition. Being able to count on and back in this way can help them to carry out mental arithmetic calculations more easily.

Complete the missing numbers.

2	4	6							
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15	20	25							
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			40	50					
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24	22	20							
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100	90								
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				30	25	20			
--	--	--	--	----	----	----	--	--	--

6	16	26							
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			32	42					
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95	85								
----	----	--	--	--	--	--	--	--	--

			61	51					1
--	--	--	----	----	--	--	--	--	---

# Counting in 2s, 5s and 10s to Do Calculations

## What you need to know:

Once children can count on and back in 2s, 5s and 10s, they can carry out mental arithmetic calculations more easily.

Count on or back in 5s or 10s to complete these number sentences.

$15 + 5 + 5 + 5 = \square$

$45 + 10 + 10 = \square$

$35 + 5 + 5 = \square$

$63 + 10 + 10 = \square$

$45 - 5 - 5 = \square$

$76 - 10 - 10 = \square$

$65 - 5 - 5 - 5 = \square$

$99 - 10 - 10 = \square$

Count on or back in 10s to complete these number sentences. Think about how many tens you need to count.

$21 + 20 = \square$

$14 + 30 = \square$

$88 - 30 = \square$

$79 - 20 = \square$



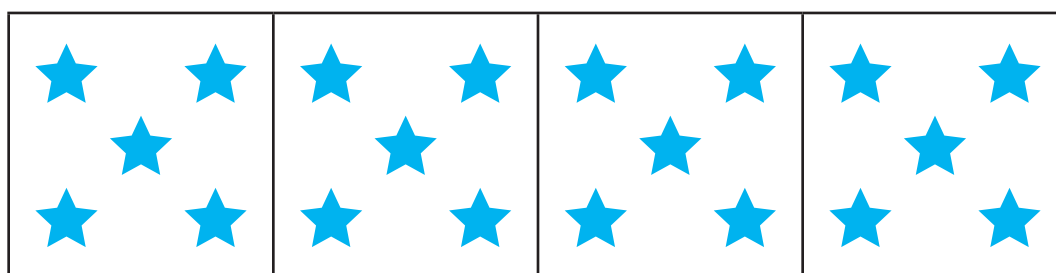
# Times Tables – Multiplication Facts

## What you need to know:

By the end of year 2, children need to know the multiplication facts for the  $2\times$ ,  $3\times$ ,  $5\times$  and  $10\times$  tables. They also need to know the associated division facts for each table (e.g.  $20 \div 2 = 10$ ). Learning these tables 'by heart' is the ultimate aim but children in year 2 are also still learning what is meant by multiplication and division. Multiplication is usually taught through the concepts of creating groups or using 'repeated addition', and division is taught through the concepts of sharing and 'repeated subtraction'. We will begin by looking at multiplication here.

## How We Multiply

When we look at a multiplication number sentence, we can imagine that the ' $\times$ ' sign is saying 'groups of' so the number sentence ' $4 \times 5$ ' is telling us to make 4 groups of 5.

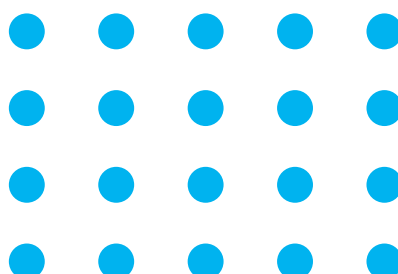


Here we have 20 stars altogether so we know that  $4 \times 5 = 20$ .

Alternatively, we can do a repeated addition, where we add 5 four times:

$$5 + 5 + 5 + 5 = 20$$

A simple way of grouping is to use an 'array'. The array for  $4 \times 5$  looks like this – four rows of 5 dots:



Again, we have made four groups of 5 but if we look down the columns, we can also see five groups of 4, so we know that  $5 \times 4 = 20$  too.

# Times Tables – Multiplication Facts

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Use arrays to work out the answers to these number sentences.

$3 \times 2 =$

$2 \times 5 =$

$4 \times 10 =$

$6 \times 3 =$

$6 \times 2 =$

$5 \times 5 =$

$2 \times 10 =$

$7 \times 3 =$

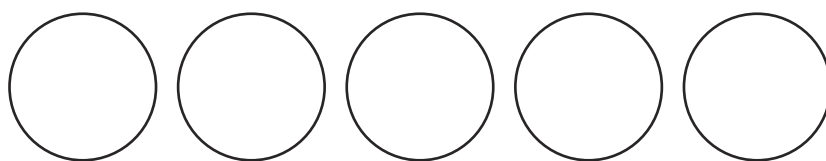
# Times Tables – Division Facts

## What you need to know:

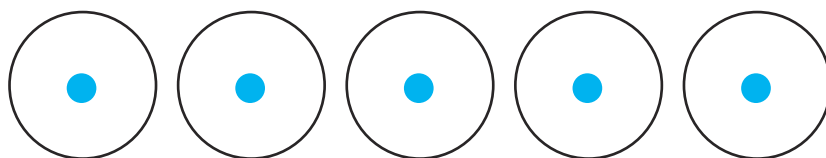
By the end of year 2, children need to know the multiplication facts for the  $2\times$ ,  $3\times$ ,  $5\times$  and  $10\times$  tables. They also need to know the associated division facts for each table (e.g.  $20 \div 2 = 10$ ). Learning these tables 'by heart' is the ultimate aim but children in year 2 are also still learning what is meant by multiplication and division. Multiplication is usually taught through the concepts of creating groups or using 'repeated addition', and division is taught through the concepts of sharing and 'repeated subtraction'. We will begin by looking at multiplication here.

## How We Divide

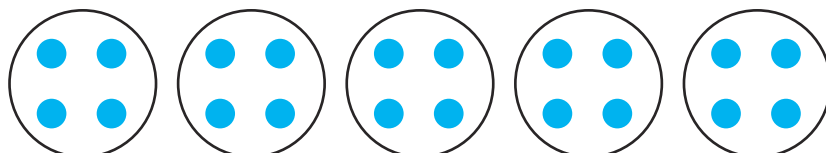
When we look at a division number sentence, we can imagine that the ' $\div$ ' sign is saying 'divide into groups of' so the number sentence ' $20 \div 5$ ' is telling us to divide 20 into 5 groups. We can start by drawing the number of groups we need:



Then we need to divide 20 equally between these groups. The best way to do this is to add one at a time to each group, like this:



until you have counted 20 spots into the groups.



Once we have shared 20 between 5 groups, we can see that we have 4 in each group so  $20 \div 5 = 4$ , or to use the repeated subtraction method,

$$20 - 4 - 4 - 4 - 4 - 4 = 0.$$

# Times Tables – Division Facts

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Draw groups and use sharing to work out the answers.

$10 \div 2 =$

$12 \div 3 =$

$30 \div 10 =$

$16 \div 2 =$

$20 \div 2 =$

$25 \div 5 =$

$15 \div 5 =$

$24 \div 3 =$

# Times Tables – Rapid Recall

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## What you need to know:

Once children understand the concepts of multiplication and division, they need to develop rapid recall of the multiplication and division facts in the  $2\times$ ,  $3\times$ ,  $5\times$  and  $10\times$  tables. They should learn the following recall skills:

- reciting the multiplication tables, e.g.  $1 \times 2$  is 2,  $2 \times 2$  is 4 and so on;
- reciting the associated division facts, e.g.  $2 \div 2$  is 1,  $4 \div 2$  is 2 and so on;
- counting on in 2s, 3s, 5s, and 10s, e.g. 2, 4, 6, 8 and so on;
- counting back in 2s, 3s, 5s and 10s, e.g. 100, 90, 80, 70 and so on;
- being able to answer questions given randomly, e.g. what is  $3 \times 3$ ? what is  $15 \div 3$ ? and so on;
- linking multiplication and division facts, e.g. If I know  $4 \times 3 = 12$ , I know that  $3 \times 4 = 12$ ,  $12 \div 4 = 3$  and  $12 \div 3 = 4$ ;
- how to recognise whether numbers belong in the tables, e.g. all numbers in the  $2\times$  table are even, all numbers in the  $5\times$  table end with 5 or 0 or all numbers in the  $10\times$  table end with 0.

There are lots of ways to help your child learn their tables. Have a look at the Twinkl Guide to Useful Strategies for Learning Multiplication Tables for some useful ideas.

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**On the next page, you will find the  $2\times$ ,  $3\times$ ,  $5\times$  and  $10\times$  tables written out to help you learn them off by heart.**

# Times Tables – Rapid Recall

2× tables		3× tables	
$1 \times 2 = 2$	$2 \div 2 = 1$	$1 \times 3 = 3$	$3 \div 3 = 1$
$2 \times 2 = 4$	$4 \div 2 = 2$	$2 \times 3 = 6$	$6 \div 3 = 2$
$3 \times 2 = 6$	$6 \div 2 = 3$	$3 \times 3 = 9$	$9 \div 3 = 3$
$4 \times 2 = 8$	$8 \div 2 = 4$	$4 \times 3 = 12$	$12 \div 3 = 4$
$5 \times 2 = 10$	$10 \div 2 = 5$	$5 \times 3 = 15$	$15 \div 3 = 5$
$6 \times 2 = 12$	$12 \div 2 = 6$	$6 \times 3 = 18$	$18 \div 3 = 6$
$7 \times 2 = 14$	$14 \div 2 = 7$	$7 \times 3 = 21$	$21 \div 3 = 7$
$8 \times 2 = 16$	$16 \div 2 = 8$	$8 \times 3 = 24$	$24 \div 3 = 8$
$9 \times 2 = 18$	$18 \div 2 = 9$	$9 \times 3 = 27$	$27 \div 3 = 9$
$10 \times 2 = 20$	$20 \div 2 = 10$	$10 \times 3 = 30$	$30 \div 3 = 10$
$11 \times 2 = 22$	$22 \div 2 = 11$	$11 \times 3 = 33$	$33 \div 3 = 11$
$12 \times 2 = 24$	$24 \div 2 = 12$	$12 \times 3 = 36$	$36 \div 3 = 12$

5× tables		10× tables	
$1 \times 5 = 5$	$5 \div 5 = 1$	$1 \times 10 = 10$	$5 \div 5 = 1$
$2 \times 5 = 10$	$10 \div 5 = 2$	$2 \times 10 = 20$	$10 \div 5 = 2$
$3 \times 5 = 15$	$15 \div 5 = 3$	$3 \times 10 = 30$	$15 \div 5 = 3$
$4 \times 5 = 20$	$20 \div 5 = 4$	$4 \times 10 = 40$	$20 \div 5 = 4$
$5 \times 5 = 25$	$25 \div 5 = 5$	$5 \times 10 = 50$	$25 \div 5 = 5$
$6 \times 5 = 30$	$30 \div 5 = 6$	$6 \times 10 = 60$	$30 \div 5 = 6$
$7 \times 5 = 35$	$35 \div 5 = 7$	$7 \times 10 = 70$	$35 \div 5 = 7$
$8 \times 5 = 40$	$40 \div 5 = 8$	$8 \times 10 = 80$	$40 \div 5 = 8$
$9 \times 5 = 45$	$45 \div 5 = 9$	$9 \times 10 = 90$	$45 \div 5 = 9$
$10 \times 5 = 50$	$50 \div 5 = 10$	$10 \times 10 = 100$	$50 \div 5 = 10$
$11 \times 5 = 55$	$55 \div 5 = 11$	$11 \times 10 = 110$	$55 \div 5 = 11$
$12 \times 5 = 60$	$60 \div 5 = 12$	$12 \times 10 = 120$	$60 \div 5 = 12$

## Timed Challenges

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See how long it takes you to answer all of the questions in each box. Complete a new one every day or every other day. Use a stopwatch or ask your helper to time you. Well done if you manage to improve your time! Even more well done if you manage to equal your score or even get a higher score!

$4 \times 3 = \square$

$20 \div 2 = \square$

$2 \times 10 = \square$

$55 \div 5 = \square$

$6 \times 5 = \square$

$9 \div 3 = \square$

$5 \times 5 = \square$

$100 \div 10 = \square$

My score:

My time:

$6 \times 2 = \square$

$24 \div 3 = \square$

$4 \times 10 = \square$

$6 \times 3 = \square$

$45 \div 5 = \square$

$40 \div 10 = \square$

$8 \times 5 = \square$

$14 \div 2 = \square$

My score:

My time:

# Timed Challenges

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$7 \times 2 = \square$

$10 \div 5 = \square$

$24 \div 2 = \square$

$9 \times 3 = \square$

$10 \times 10 = \square$

$2 \times 3 = \square$

$5 \div 5 = \square$

$90 \div 10 = \square$

My score:

My time:

$7 \times 5 = \square$

$36 \div 3 = \square$

$20 \div 10 = \square$

$9 \times 2 = \square$

$10 \times 5 = \square$

$12 \times 3 = \square$

$30 \div 10 = \square$

$4 \div 2 = \square$

My score:

My time:



# Adding and Subtracting Tens

## What you need to know:

In year 2, children start to learn more about the value of the digits in a 2-digit number; learning that the 'tens' number is worth a multiple of 10, e.g. in the number 53, the '5' is actually '50' and so on. This knowledge enables them to carry out more advanced addition and subtraction. To begin with, they will add 'tens' numbers (these are the numbers that end with a zero, e.g. 10, 20 30, 40 and so on).

If I know that  $2 + 3 = 5$ , then I also know that  $20 + 30 = 50$ .

Complete these statements:

$$3 + 4 = 7 \text{ so } 30 + 40 = \square$$

$$6 + 3 = 9 \text{ so } 60 + 30 = \square$$

$$5 - 2 = 3 \text{ so } 50 - 20 = \square$$

$$2 + 2 = 4 \text{ so } 20 + \square = 40$$

$$8 - 2 = 6 \text{ so } 80 - \square = 60$$

Now use what you know about tens numbers to solve these number sentences:

$$60 + 20 + 10 = \square$$

$$30 + 30 + 20 = \square$$

$$20 + 40 + 5 = \square$$

$$50 + 10 + 10 = \square$$

# Adding and Subtracting 2-Digit Numbers

## What you need to know:

In year 2, children start to learn more about the value of the digits in a 2-digit number; learning that the 'tens' number is worth a multiple of 10, e.g. in the number 53, the '5' is actually '50' and so on. This knowledge enables them to carry out more advanced addition and subtraction. They can also continue to use their understanding of the relationship between addition and subtraction to solve missing number problems involving 2-digit numbers.

When we add two 2-digit numbers, we can add the tens and the ones separately:

The diagram illustrates the addition of 24 and 33. It shows three equations:  $20 + 30 = 50$ ,  $4 + 3 = 7$ , and  $50 + 7 = 57$ . Arrows connect the tens digits (20 and 30) to their sum (50), and the ones digits (4 and 3) to their sum (7). A final arrow connects 50 and 7 to the final sum, 57. Below these equations is a boxed equation:  $24 + 33 = 57$ .

Or, we can do it this way:

$$\begin{array}{r} 24 + 33 = \\ \phantom{2}4 + \phantom{3}3 = \\ \hline 50 + 7 = 57 \end{array}$$

We can subtract in a similar way:

The diagram illustrates the subtraction of 24 from 47. It shows three equations:  $40 - 20 = 20$ ,  $7 - 4 = 3$ , and  $20 + 3 = 23$ . Arrows connect the tens digits (40 and 20) to their difference (20), and the ones digits (7 and 4) to their difference (3). A final arrow connects 20 and 3 to the final difference, 23. Below these equations is a boxed equation:  $47 - 24 = 23$ .

Or, we can do it this way:

$$\begin{array}{r} 47 - 24 = \\ \phantom{4}7 - \phantom{2}4 = \\ \hline 20 + 3 = 23 \end{array}$$

# Adding and Subtracting 2-Digit Numbers

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Try these problems – use whichever method works best for you.

$45 + 22 =$

$21 + 35 =$

$16 + 12 =$

$36 + 23 =$

$93 - 21 =$

$65 - 45 =$

$53 - 20 =$

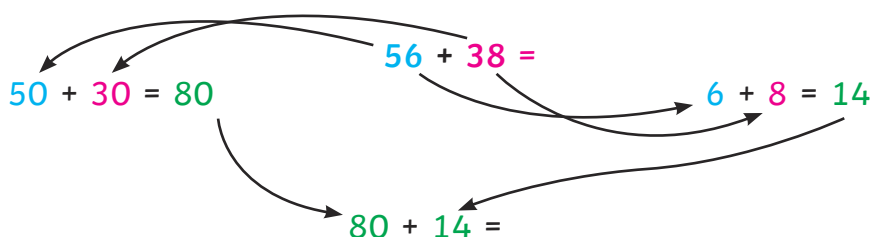
$35 - 21 =$

# Adding and Subtracting 2-Digit Numbers

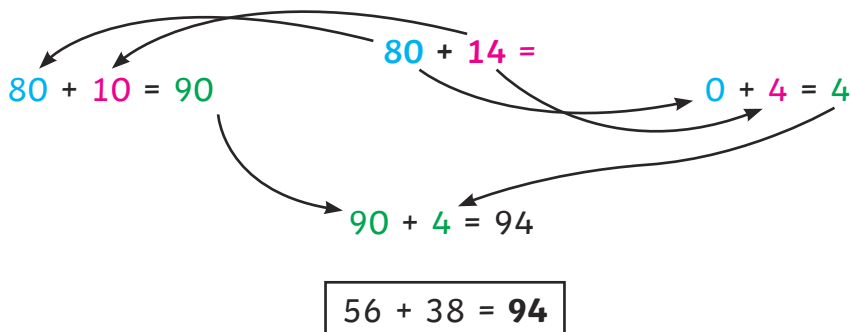
## What you need to know:

Once children understand how to use their knowledge of tens and ones to add and subtract 2-digit numbers, they can look at more challenging problems, where the ones digits add up to more than 10 (e.g.  $47 + 35$ ), or cannot immediately be subtracted (e.g.  $63 - 37$ ).

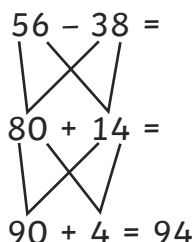
Here is what to do if your 'ones' digits add up to more than 10. Start as you would for any addition involving two 2-digit numbers:



All you need to do now is repeat the same thing again:



Or, we can do it this way:



# Adding and Subtracting 2-Digit Numbers

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Try these problems – use whichever method works best for you.

$45 + 28 =$

$29 + 15 =$

$76 + 19 =$

$36 + 27 =$

$73 + 28 =$

$65 + 25 =$

$59 + 23 =$

$37 + 27 =$

# Adding and Subtracting 2-Digit Numbers

## What you need to know:

Once children understand how to use their knowledge of tens and ones to add and subtract 2-digit numbers, they can look at more challenging problems, where the ones digits add up to more than 10 (e.g.  $47 + 35$ ), or cannot immediately be subtracted (e.g.  $63 - 37$ ). Unfortunately, the subtractions in these situations don't work with the methods we have looked at so far. It is easier to look at 'finding the difference' between the two numbers and children are taught to do this using a number line - 'jumping along' the line using their knowledge of counting on in ones, 5s, 10s and so on.

Look at this subtraction number sentence:

$$45 - 18 =$$

We can't work it out by subtracting the tens and then the ones separately. Can you see why? Talk to your helper about it.

The reason is because the 'ones' subtraction would be  $5 - 8 =$  and we can't do this because 5 is less than 8.

Instead, we can find the 'difference' between the numbers using a number line. Draw a straight line using a ruler, and write the two numbers at each end. Don't forget to put the smaller number first!

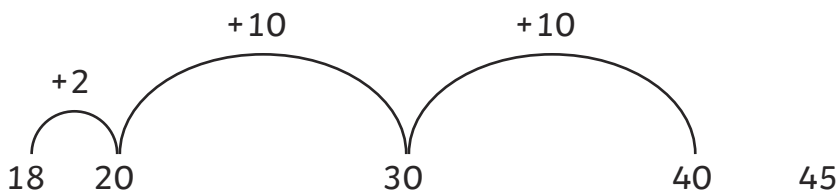


Now 'jump' from the first number to the next ten, like this:

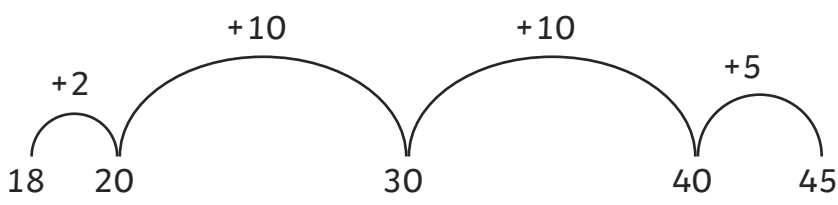


# Adding and Subtracting 2-Digit Numbers

For each jump, write how much you have jumped by. Now, jump to the next 'tens' number - this is easy, because you can count in 10s. The next 10 here would be 30.



Once you have jumped to the 'tens' number closest to the final number, you just need to jump to the final number:



Finally, add together the values of all the jumps you have done - here it would be  $2 + 10 + 10 + 5 = 27$  so the answer to our original problem is:

$$45 - 18 = 27$$

If you want to, you can check your answer using the inverse operation:

$$27 + 18 =$$

$$20 + 10 = 30$$

$$7 + 8 = 15$$

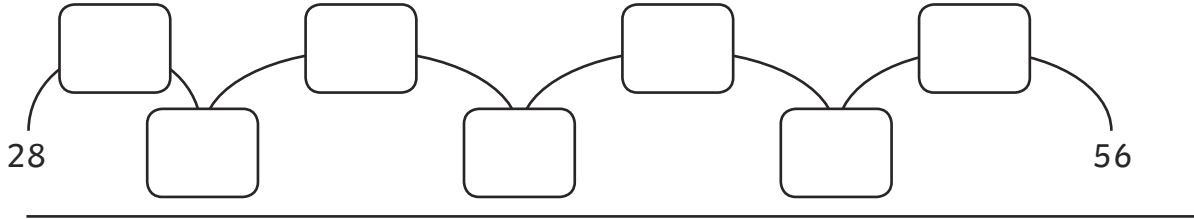
$$30 + 15 = 45$$

# Adding and Subtracting 2-Digit Numbers

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Try these problems using a number line to find the difference.

$$56 - 28 =$$



$$72 - 34 =$$

34

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$$31 - 16 =$$

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$$40 - 18 =$$

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# Adding and Subtracting Tens: Missing Number Problems

## What you need to know:

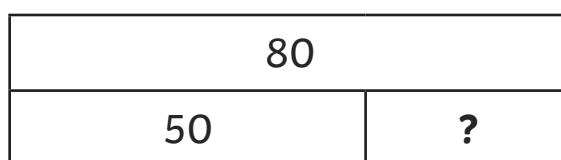
For more information about the 'bar' and 'part-part-whole' models, see pages 24 – 27. Once children understand how to add and subtract two-digit numbers, they should be able to use these models to help them to solve missing number problems.

Look at this missing number problem:

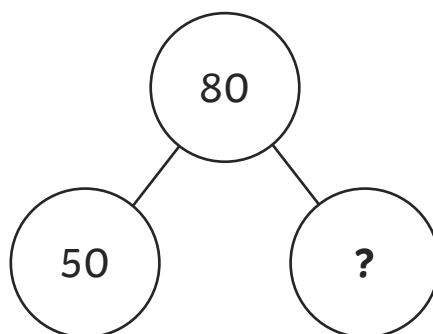
$$50 + \square = 80$$

We can use the bar model or the 'part-part-whole' model to help us solve this.

### Bar Model



### Part-Part-Whole Model



Both these models show us that to find the answer, we need to do the calculation:

$$80 - 50 = 30$$

so

$$50 + \boxed{30} = 80$$

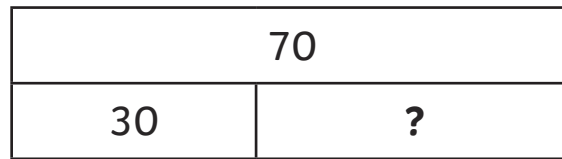
# Adding and Subtracting Tens: Missing Number Problems

Here's a subtraction missing number problem:

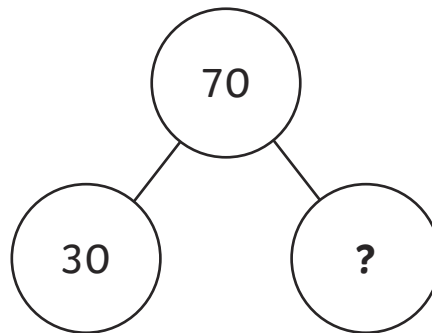
$$70 - \square = 30$$

Again, we can use the bar model or the 'part-part-whole' model:

## Bar Model



## Part-Part-Whole Model



To find the answer we need to do the calculation.

$$70 - 30 = 40$$

so

$$70 - \boxed{40} = 30$$

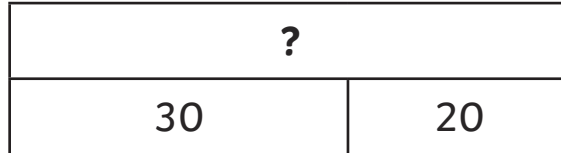
Turn to the next page for one more.

# Adding and Subtracting Tens: Missing Number Problems

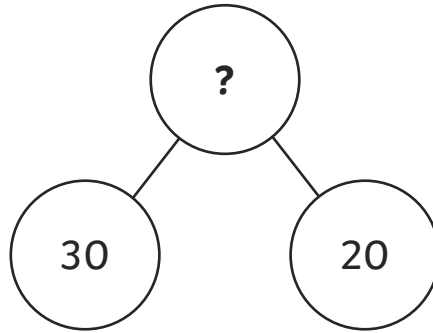
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$$\square - 30 = 20$$

**Bar Model**



**Part-Part: Whole Model**



To find the answer we need to do the calculation.

$$30 + 20 = 50$$

**so**

$$\boxed{50} - 30 = 20$$

# Adding and Subtracting Tens: Missing Number Problems

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Try these missing number problems.  
You might need some extra paper for your working out.

$$40 + \boxed{\phantom{00}} = 70$$

$$\boxed{\phantom{00}} + 30 = 60$$

$$70 - \boxed{\phantom{00}} = 50$$

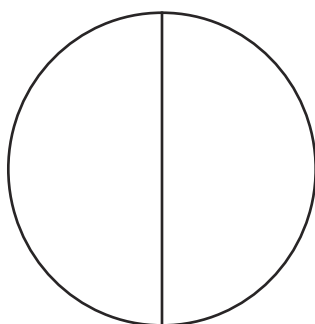
$$\boxed{\phantom{00}} - 20 = 40$$

## Fractions of Numbers: Finding Half ( $\frac{1}{2}$ )

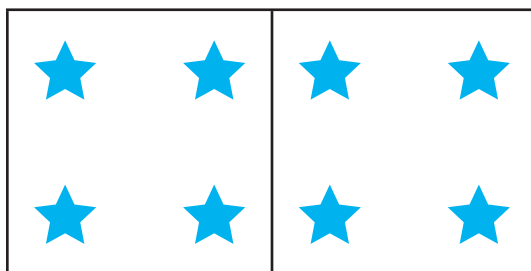
### What you need to know:

Children begin to learn about fractions by dividing shapes into halves, quarters and thirds. They then move on to thinking about fractions of amounts and are taught to make the link with their understanding of division. Children are also encouraged to learn the halves of numbers to 20 and doubles of numbers to 10, by heart.

When we divide a shape into halves, we make two equal parts.



When we divide a number of objects into half, we need to divide the objects into two equal groups. To find half of 8, divide 8 between 2 groups ( $8 \div 2$ ).



To find the answer, count the number of objects in one of the groups you have made. There are 4 objects in each group, so half of 8 is 4.

## Fractions of Numbers: Finding Half ( $\frac{1}{2}$ )

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$\frac{1}{2}$  of 8 =

$\frac{1}{2}$  of 10 =

$\frac{1}{2}$  of 20 =

$\frac{1}{2}$  of 16 =

$\frac{1}{2}$  of 2 =

$\frac{1}{2}$  of 4 =

$\frac{1}{2}$  of 30 =

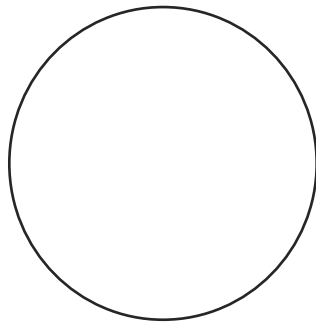
$\frac{1}{2}$  of 24 =

# Fractions of Numbers: Finding One Quarter ( $\frac{1}{4}$ )

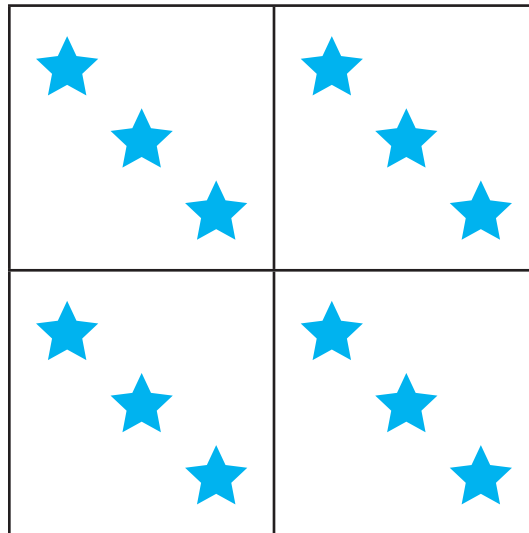
## What you need to know:

Children begin to learn about fractions by dividing shapes into halves, quarters and thirds. They then move on to thinking about fractions of amounts and are taught to make the link with their understanding of division. Children are also taught to find one quarter by halving and then halving again, e.g. half of 8 is 4, half of 4 is 2, so one quarter of 8 is 2.

When we divide a shape into quarters, we make four equal parts.



When we divide a number of objects into quarters, we need to divide the objects into four equal groups. To find quarter of 12, divide 12 between 4 groups ( $12 \div 4$ ).



To find the answer, count the number of objects in one of the groups you have made. There are 3 objects in each group, so quarter of 12 is 3.

## Fractions of Numbers: Finding One Quarter ( $\frac{1}{4}$ )

---

$$\frac{1}{4} \text{ of } 8 = \boxed{\phantom{00}}$$

$$\frac{1}{4} \text{ of } 4 = \boxed{\phantom{00}}$$

$$\frac{1}{4} \text{ of } 12 = \boxed{\phantom{00}}$$

$$\frac{1}{4} \text{ of } 28 = \boxed{\phantom{00}}$$

$$\frac{1}{4} \text{ of } 20 = \boxed{\phantom{00}}$$

$$\frac{1}{4} \text{ of } 24 = \boxed{\phantom{00}}$$

$$\frac{1}{4} \text{ of } 32 = \boxed{\phantom{00}}$$

$$\frac{1}{4} \text{ of } 16 = \boxed{\phantom{00}}$$



# Fractions of Numbers: Finding One Third ( $\frac{1}{3}$ )

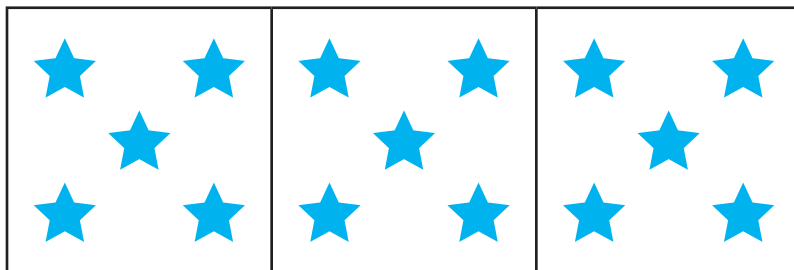
## What you need to know:

Children begin to learn about fractions by dividing shapes into halves, quarters and thirds. They then move on to thinking about fractions of amounts and are taught to make the link with their understanding of division.

When we divide a shape into thirds, we make three equal parts.



When we divide a number of objects into thirds, we need to divide the objects into three equal groups. To find one third of 15, divide 15 between 3 groups ( $15 \div 3$ ).



To find the answer, count the number of objects in one of the groups you have made. There are 5 objects in each group, so one third of 15 is 5.

## Fractions of Numbers: Finding One Third ( $\frac{1}{3}$ )

---

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

$\frac{1}{3}$  of 15 =

$\frac{1}{3}$  of 9 =

$\frac{1}{3}$  of 18 =

$\frac{1}{3}$  of 12 =

$\frac{1}{3}$  of 3 =

$\frac{1}{3}$  of 30 =

$\frac{1}{3}$  of 24 =

# Fractions of Numbers: Finding Three Quarters ( $\frac{3}{4}$ )

## What you need to know:

Children begin to learn about fractions by dividing shapes into halves, quarters and thirds. They then move on to thinking about fractions of amounts and are taught to make the link with their understanding of division. Finding three quarters requires children to carry out two steps; first finding one quarter, then multiplying this by 3 to find three quarters.

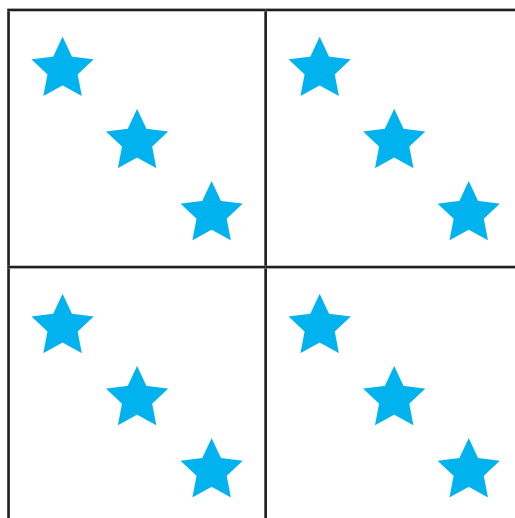
When we divide a shape into quarters, we make four equal parts. Three quarters means 3 of these parts.



When we want to find three quarters of a number of objects, we divide the objects into four equal groups first so we can find one quarter. Then, we multiply this amount by three to find three quarters. To find  $\frac{3}{4}$  of 12, first divide 12 by four:

Then multiply the number of objects in one group by 3 to find three quarters. There are 3 objects in each group so  $\frac{1}{4}$  of 12 is 3.

$3 \times 3 = 9$  so three quarters of 12 is 9.



## Fractions of Numbers: Finding Three Quarters ( $\frac{3}{4}$ )

---

$$\frac{3}{4} \text{ of } 12 =$$

$$\frac{3}{4} \text{ of } 28 =$$

$$\frac{3}{4} \text{ of } 8 =$$

$$\frac{3}{4} \text{ of } 24 =$$

$$\frac{3}{4} \text{ of } 16 =$$

$$\frac{3}{4} \text{ of } 4 =$$

$$\frac{3}{4} \text{ of } 40 =$$

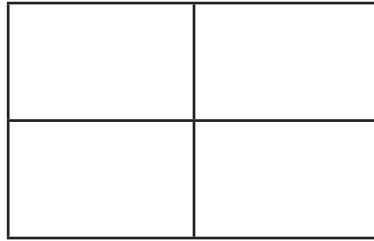
$$\frac{3}{4} \text{ of } 20 =$$

# Fractions of Numbers: Finding Two Quarters ( $\frac{2}{4}$ )

## What you need to know:

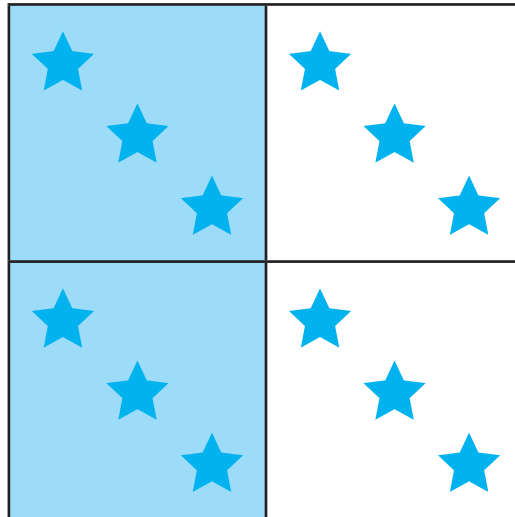
Children begin to learn about fractions by dividing shapes into halves, quarters and thirds. They then move on to thinking about fractions of amounts and are taught to make the link with their understanding of division. As well as finding  $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{1}{3}$  and  $\frac{3}{4}$ , children need to understand that  $\frac{2}{4}$  is the same as  $\frac{1}{2}$ .

When we divide a shape into quarters, we make four equal parts. Two quarters means 2 of these parts.



Do you think this shows any other fraction of the shape? Talk to your helper about it.

Two quarters is the same as  $\frac{1}{2}$ .



We have 12 objects here. We can see that half of 12 is 6, and  $\frac{2}{4}$  of 12 is also 6, so if you see a question asking you to find  $\frac{2}{4}$  - you just need to find half!

## Fractions of Numbers: Finding Two Quarters ( $\frac{2}{4}$ )

---

$$\frac{2}{4} \text{ of } 12 =$$

$$\frac{2}{4} \text{ of } 2 =$$

$$\frac{2}{4} \text{ of } 16 =$$

$$\frac{2}{4} \text{ of } 8 =$$

$$\frac{2}{4} \text{ of } 40 =$$

$$\frac{2}{4} \text{ of } 4 =$$

$$\frac{2}{4} \text{ of } 24 =$$

$$\frac{2}{4} \text{ of } 20 =$$

# Arithmetic Quiz: Final Assessment

---

1

$9 + 7 = \boxed{\phantom{00}}$



2

$14 - 6 = \boxed{\phantom{00}}$



3

$10 - \boxed{\phantom{00}} = 4$



# Arithmetic Quiz: Final Assessment

---

4

$43 + 9 =$



5

$2 + 6 + 8 =$



6

$6 \times 10 =$





# Arithmetic Quiz: Final Assessment

---

7

$10 \times 2 = \boxed{\phantom{00}}$

8

$60 + \boxed{\phantom{00}} = 90$

9

$48 - \boxed{\phantom{00}} = 41$

# Arithmetic Quiz: Final Assessment

---

10

$20 + 30 + 10 = \boxed{\phantom{000}}$



11

$41 - 10 - 10 = \boxed{\phantom{000}}$



12

$4 \times 5 = \boxed{\phantom{000}}$



# Arithmetic Quiz: Final Assessment

---

13

$41 + 30 = \boxed{\phantom{00}}$



14

$16 \div 2 = \boxed{\phantom{00}}$



15

$47 + \boxed{\phantom{00}} = 53$









# Arithmetic Quiz: Final Assessment

---

25

$\frac{3}{4}$  of 16 =



.....

\*\*END OF TEST\*\*

# Answers: Final Assessment

<b>1</b>	$9 + 7 = 16$
<b>2</b>	$14 - 6 = 8$
<b>3</b>	$10 - 6 = 4$
<b>4</b>	$43 + 9 = 52$
<b>5</b>	$2 + 6 + 8 = 16$
<b>6</b>	$6 \times 10 = 60$
<b>7</b>	$10 \times 2 = 20$
<b>8</b>	$60 + 30 = 90$
<b>9</b>	$48 - 7 = 41$
<b>10</b>	$20 + 30 + 10 = 60$
<b>11</b>	$41 - 10 - 10 = 21$
<b>12</b>	$4 \times 5 = 20$
<b>13</b>	$41 + 30 = 71$
<b>14</b>	$16 \div 2 = 8$
<b>15</b>	$47 + 6 = 53$
<b>16</b>	$38 + 12 = 50$
<b>17</b>	$8 \times 3 = 24$
<b>18</b>	$\frac{1}{2}$ of 20 = 10
<b>19</b>	$35 + 29 = 64$
<b>20</b>	$90 \div 10 = 9$
<b>21</b>	$45 \div 5 = 9$
<b>22</b>	$\frac{1}{4}$ of 12 = 3
<b>23</b>	$62 - 25 = 37$
<b>24</b>	$\frac{1}{3}$ of 18 = 6
<b>25</b>	$\frac{3}{4}$ of 16 = 12



# Answers

## Page 12 - 13: Adding Two Single-Digit Numbers: Bridging 10

$0 + \boxed{10} = 10$

$1 + \boxed{9} = 10$

$\boxed{2} + 8 = 10$

$\boxed{3} + 7 = 10$

$4 + \boxed{6} = 10$

$\boxed{5} + 5 = 10$

$6 + \boxed{4} = 10$

$7 + \boxed{3} = 10$

$\boxed{8} + 2 = 10$

$9 + \boxed{1} = 10$

$9 + 4 = \boxed{13}$

$7 + 7 = \boxed{14}$

$6 + 8 = \boxed{14}$

$9 + 8 = \boxed{17}$

$8 + 4 = \boxed{12}$

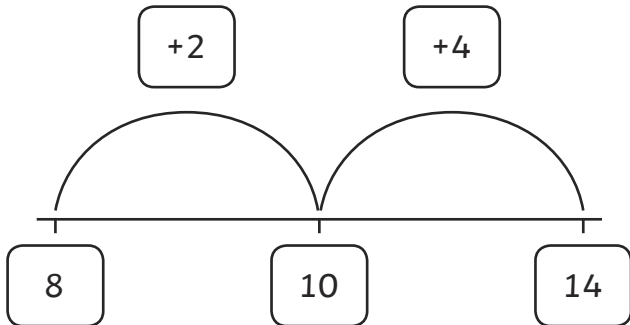
$7 + 4 = \boxed{11}$



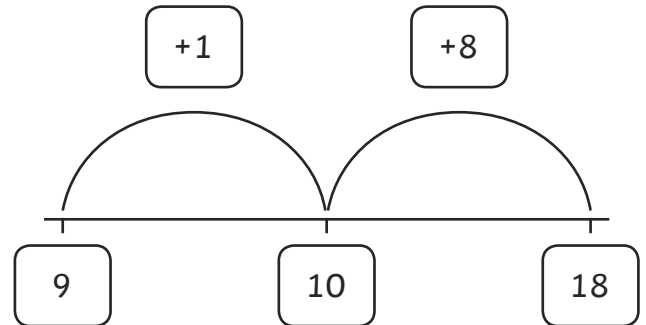
# Answers

## Page 14: Subtracting One Single-Digit Number from Another: Bridging 10

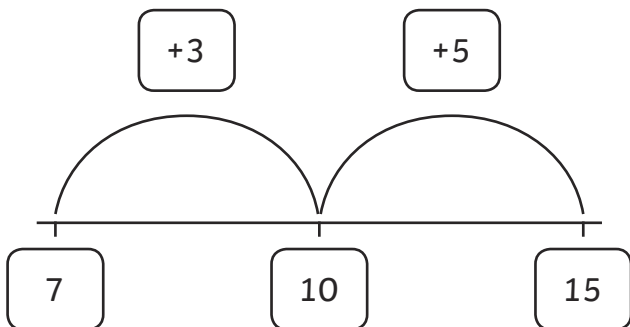
$14 - 8 = 6$



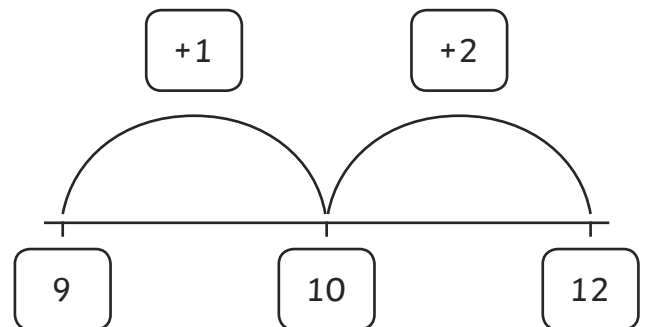
$18 - 9 = 9$



$15 - 7 = 8$



$12 - 9 = 3$



## Page 16: Adding and Subtracting with 2-Digit and 1-Digit Numbers

$43 + 2 = 45$

$21 + 5 = 26$

$36 + 3 = 39$

$88 + 1 = 89$

$56 - 4 = 52$

$14 - 2 = 12$

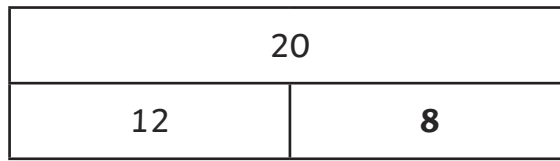
$67 - 6 = 61$

$39 - 5 = 34$

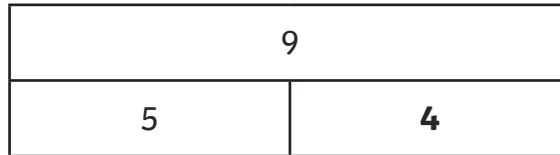
# Answers

## Page 18: Missing Number Problems (Addition) Using Bar Models

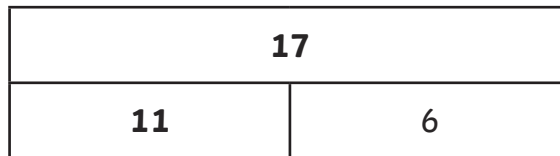
1.  $12 + \boxed{8} = 20$



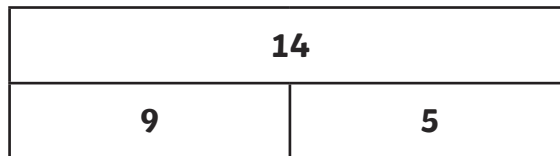
2.  $\boxed{4} + 5 = 9$



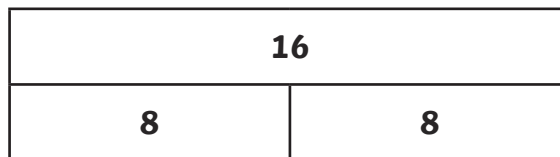
3.  $\boxed{11} + 6 = 17$



4.  $9 + \boxed{5} = 14$



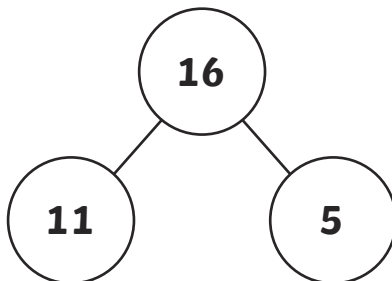
5.  $8 + \boxed{8} = 16$



.....

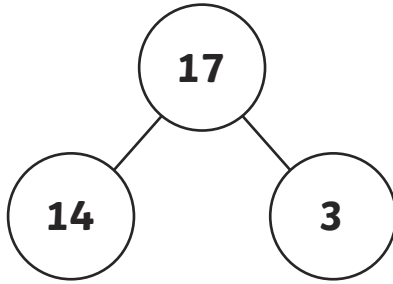
## Page 21: Missing Number Problems (Addition) Using 'Part-Part-Whole'

1.  $11 + \boxed{5} = 16$

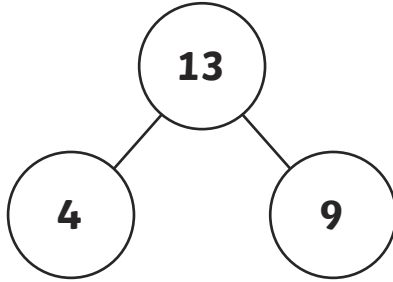


# Answers

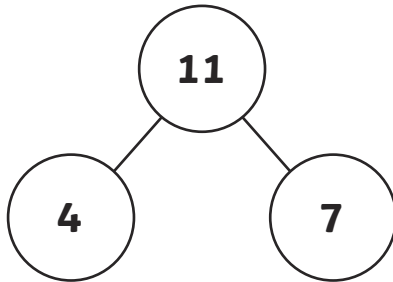
2.  $14 + \boxed{3} = 17$



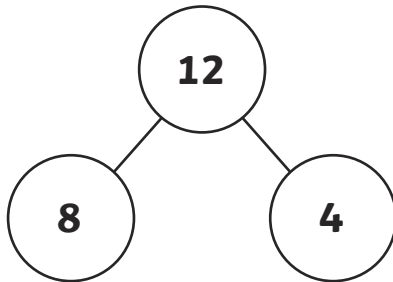
3.  $\boxed{4} + 9 = 13$



4.  $\boxed{4} + 7 = 11$



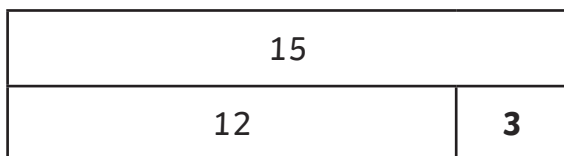
5.  $8 + \boxed{4} = 12$



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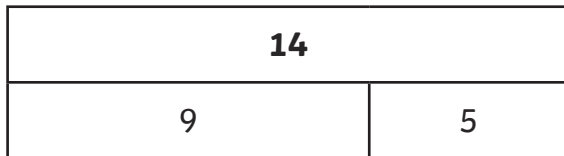
## Page 22: Missing Number Problems (Subtraction) Using Bar Models

1.  $15 - \boxed{3} = 12$

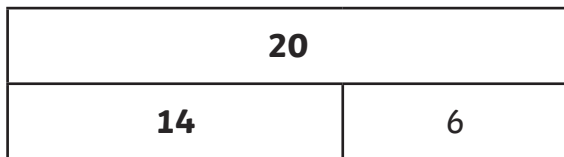


# Answers

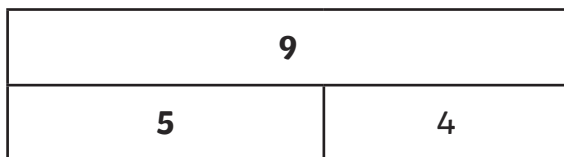
2.  $\boxed{14} - 5 = 9$



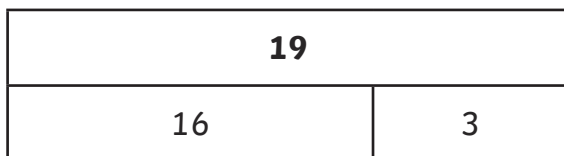
3.  $\boxed{20} - 6 = 14$



4.  $9 - \boxed{5} = 4$



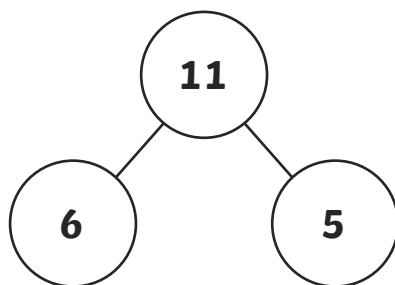
5.  $\boxed{19} - 3 = 16$



.....

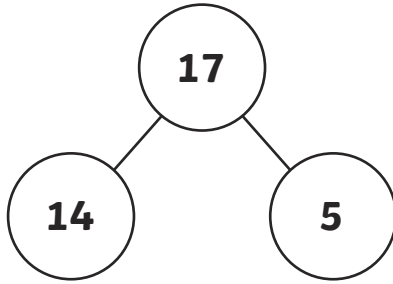
## Page 24: Missing Number Problems (Addition) Using Bar Models

1.  $11 + \boxed{5} = 16$

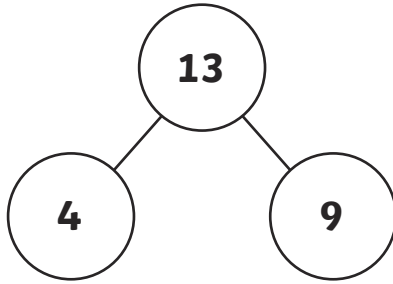


# Answers

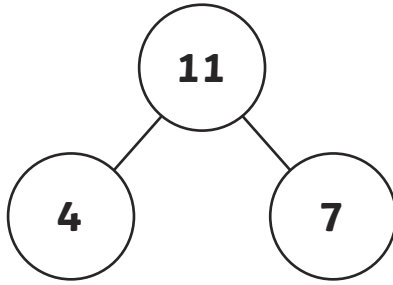
2.  $14 + \boxed{3} = 17$



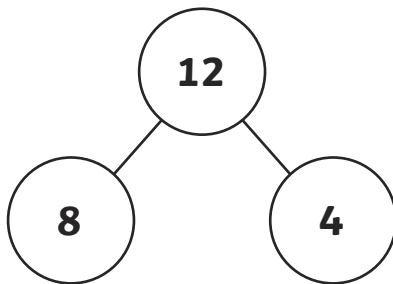
3.  $\boxed{4} + 9 = 13$



4.  $\boxed{4} + 7 = 11$



5.  $8 + \boxed{4} = 12$



---

## Page 25: Missing Number Problems: Bringing It All Together

$$6 + \boxed{8} = 14$$

$$8 + \boxed{4} = 12$$

$$14 - \boxed{6} = 8$$

$$\boxed{7} + 7 = 14$$

$$56 - 4 = \boxed{52}$$

$$14 - 2 = \boxed{12}$$

# Answers

## Page 25: Adding Three Single-Digit Numbers Using Number Bonds to 10

$$8 + 4 + 2 = \boxed{14}$$

$$9 + 9 + 1 = \boxed{19}$$

$$4 + 6 + 8 = \boxed{18}$$

$$5 + 3 + 5 = \boxed{13}$$

$$7 + 4 + 3 = \boxed{14}$$

$$9 + 6 + 4 = \boxed{19}$$

$$2 + 2 + 8 = \boxed{12}$$

$$5 + 9 + 1 = \boxed{15}$$

## Page 27: Counting in 2s, 5s and 10s

2	4	6	8	10	12	14	16	18	20
---	---	---	---	----	----	----	----	----	----

15	20	25	30	35	40	45	50	55	60
----	----	----	----	----	----	----	----	----	----

10	20	30	40	50	60	70	80	90	100
----	----	----	----	----	----	----	----	----	-----

24	22	20	18	16	14	12	10	8	6
----	----	----	----	----	----	----	----	---	---

100	90	80	70	60	50	40	30	20	10
-----	----	----	----	----	----	----	----	----	----

50	45	40	35	30	25	20	15	10	5
----	----	----	----	----	----	----	----	----	---

6	16	26	36	46	56	66	76	86	96
---	----	----	----	----	----	----	----	----	----

2	12	22	32	42	52	62	72	82	92
---	----	----	----	----	----	----	----	----	----

95	85	75	65	55	45	35	25	15	5
----	----	----	----	----	----	----	----	----	---

91	81	71	61	51	41	31	21	11	1
----	----	----	----	----	----	----	----	----	---

# Answers

## Page 28: Counting in 2s, 5s and 10s to Do Calculations

$15 + 5 + 5 + 5 = \boxed{30}$

$45 + 10 + 10 = \boxed{65}$

$35 + 5 + 5 = \boxed{45}$

$63 + 10 + 10 = \boxed{83}$

$45 - 5 - 5 = \boxed{35}$

$76 - 10 - 10 = \boxed{56}$

$65 - 5 - 5 - 5 = \boxed{50}$

$99 - 10 - 10 = \boxed{79}$

$21 + 20 = \boxed{41}$

$14 + 30 = \boxed{44}$

$88 - 30 = \boxed{58}$

$79 - 20 = \boxed{59}$

## Page 30: Times Tables – Multiplication Facts

$3 \times 2 = \boxed{6}$

$2 \times 5 = \boxed{10}$

$4 \times 10 = \boxed{40}$

$6 \times 3 = \boxed{18}$

$6 \times 2 = \boxed{12}$

$5 \times 5 = \boxed{25}$

$2 \times 10 = \boxed{20}$

$7 \times 3 = \boxed{21}$



# Answers

## Page 32: Times Tables – Multiplication Facts

$10 \div 2 = 5$

$12 \div 3 = 4$

$30 \div 10 = 3$

$16 \div 2 = 8$

$20 \div 2 = 10$

$25 \div 5 = 5$

$15 \div 5 = 3$

$24 \div 3 = 8$

## Page 35 - 36: Timed Challenges

$4 \times 3 = 12$

$20 \div 2 = 10$

$2 \times 10 = 20$

$55 \div 5 = 11$

$6 \times 5 = 30$

$9 \div 3 = 3$

$5 \times 5 = 25$

$100 \div 10 = 10$

$6 \times 2 = 12$

$24 \div 3 = 8$

$4 \times 10 = 40$

$6 \times 3 = 18$

$45 \div 5 = 9$

$40 \div 10 = 4$

$8 \times 5 = 40$

$14 \div 2 = 7$

# Answers

## Page 37: Times Tables – Multiplication Facts

$3 + 4 = 7 \text{ so } 30 + 40 = \boxed{70}$

$6 + 3 = 9 \text{ so } 60 + 30 = \boxed{90}$

$5 - 2 = 3 \text{ so } 50 - 20 = \boxed{30}$

$2 + 2 = 4 \text{ so } 20 + \boxed{20} = 40$

$8 - 2 = 6 \text{ so } 80 - \boxed{20} = 60$

$60 + 20 + 10 = \boxed{90}$

$30 + 30 + 20 = \boxed{80}$

$20 + 40 + 5 = \boxed{65}$

$50 + 10 + 10 = \boxed{70}$

.....

## Page 39: Adding and Subtracting 2-Digit Numbers

$45 + 22 = \boxed{67}$

$21 + 35 = \boxed{56}$

$16 + 12 = \boxed{28}$

$36 + 23 = \boxed{59}$

$93 - 21 = \boxed{72}$

$65 - 45 = \boxed{20}$

$53 - 20 = \boxed{33}$

$35 - 21 = \boxed{14}$

# Answers

## Page 41: Adding and Subtracting 2-Digit Numbers

$45 + 28 = \boxed{73}$

$29 + 15 = \boxed{44}$

$76 + 19 = \boxed{95}$

$36 + 27 = \boxed{63}$

$73 + 28 = \boxed{101}$

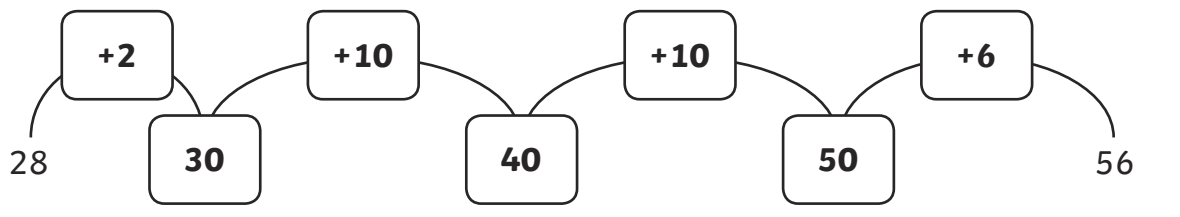
$65 + 25 = \boxed{90}$

$59 + 23 = \boxed{82}$

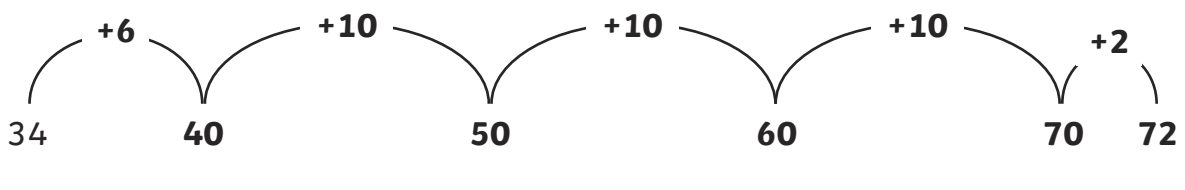
$37 + 27 = \boxed{64}$

## Page 44: Adding and Subtracting 2-Digit Numbers

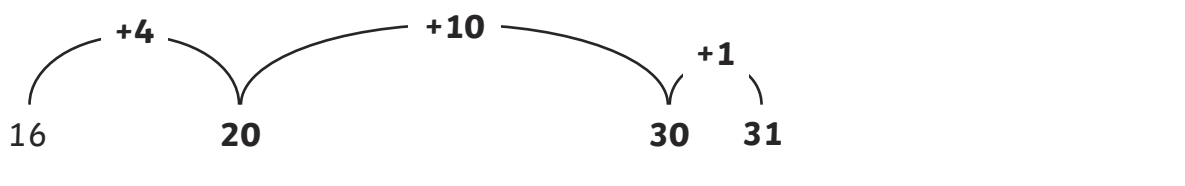
$56 - 28 = 28$



$72 - 34 = 38$

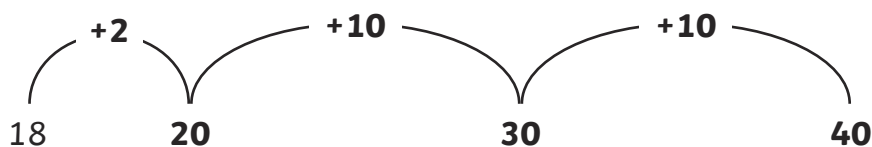


$31 - 16 = 15$



# Answers

$$40 - 18 = 22$$



## Page 48: Adding and Subtracting 2-Digit Numbers

$$40 + \boxed{30} = 70$$

$$\boxed{30} + 30 = 60$$

$$70 - \boxed{20} = 50$$

$$\boxed{60} - 20 = 40$$

## Page 52: Fractions of Numbers – Finding Half

$$\frac{1}{2} \text{ of } 8 = \boxed{4}$$

$$\frac{1}{2} \text{ of } 10 = \boxed{5}$$

$$\frac{1}{2} \text{ of } 20 = \boxed{10}$$

$$\frac{1}{2} \text{ of } 16 = \boxed{8}$$

$$\frac{1}{2} \text{ of } 2 = \boxed{1}$$

$$\frac{1}{2} \text{ of } 4 = \boxed{2}$$

$$\frac{1}{2} \text{ of } 30 = \boxed{15}$$

$$\frac{1}{2} \text{ of } 24 = \boxed{12}$$

# Answers

## Page 52: Fractions of Numbers – Finding One Quarter

$$\frac{1}{4} \text{ of } 8 = \boxed{2}$$

$$\frac{1}{4} \text{ of } 4 = \boxed{1}$$

$$\frac{1}{4} \text{ of } 12 = \boxed{3}$$

$$\frac{1}{4} \text{ of } 28 = \boxed{7}$$

$$\frac{1}{4} \text{ of } 20 = \boxed{5}$$

$$\frac{1}{4} \text{ of } 24 = \boxed{6}$$

$$\frac{1}{4} \text{ of } 32 = \boxed{8}$$

$$\frac{1}{4} \text{ of } 16 = \boxed{4}$$

## Page 54: Fractions of Numbers – Finding One Third

$$\frac{1}{3} \text{ of } 6 = \boxed{2}$$

$$\frac{1}{3} \text{ of } 15 = \boxed{5}$$

$$\frac{1}{3} \text{ of } 9 = \boxed{3}$$

$$\frac{1}{3} \text{ of } 18 = \boxed{6}$$

$$\frac{1}{3} \text{ of } 12 = \boxed{4}$$

$$\frac{1}{3} \text{ of } 3 = \boxed{1}$$

$$\frac{1}{3} \text{ of } 30 = \boxed{10}$$

$$\frac{1}{3} \text{ of } 24 = \boxed{8}$$

## Page 56: Fractions of Numbers – Finding Three Quarters

$$\frac{3}{4} \text{ of } 12 = \boxed{9}$$

$$\frac{3}{4} \text{ of } 28 = \boxed{21}$$

$$\frac{3}{4} \text{ of } 8 = \boxed{6}$$

$$\frac{3}{4} \text{ of } 24 = \boxed{18}$$

# Answers

$$\frac{3}{4} \text{ of } 16 = \boxed{12}$$

$$\frac{3}{4} \text{ of } 4 = \boxed{3}$$

$$\frac{3}{4} \text{ of } 40 = \boxed{30}$$

$$\frac{3}{4} \text{ of } 20 = \boxed{15}$$

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## Page 58: Fractions of Numbers – Finding Three Quarters

$$\frac{2}{4} \text{ of } 12 = \boxed{6}$$

$$\frac{2}{4} \text{ of } 2 = \boxed{1}$$

$$\frac{2}{4} \text{ of } 16 = \boxed{8}$$

$$\frac{2}{4} \text{ of } 8 = \boxed{4}$$

$$\frac{2}{4} \text{ of } 40 = \boxed{20}$$

$$\frac{2}{4} \text{ of } 4 = \boxed{2}$$

$$\frac{2}{4} \text{ of } 24 = \boxed{12}$$

$$\frac{2}{4} \text{ of } 20 = \boxed{10}$$

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## Page 59 - 67: Arithmetic Quiz: Final Assessment

1. 16

6. 60

11. 21

16. 50

21. 9

2. 8

7. 20

12. 20

17. 24

22. 3

3. 6

8. 30

13. 71

18. 10

23. 37

4. 52

9. 7

14. 8

19. 64

24. 6

5. 16

10. 60

15. 6

20. 9

25. 12

# Fill the Jar!

Choose a reward that you would like to have and write it on the label of the jar. You can check off a button every time you complete some great work and when you've collected all the buttons, you can have your reward.

If you still have work to do, you can start again, perhaps with a new reward!

**Completing a sheet** – 1 button

**Doing something else great (helper's choice)** – 1 button

