

Monday 24th November 2025

Challenge of the week



3 Which of these calculations will help you check if $5 + 8 = 13$ is correct?

$13 + 5$

$8 + 5$

$13 - 5$

$8 - 5$

$13 - 8$

I think there is a connection between these calculations and the fact families.

CHALLENGE



Explain why you chose your answers.

I just did $5 + 8$ again and got 13, so it must be right.



Which of these calculations will help you check if $5 + 8 = 13$ is correct?



LQ: Can I find fact families?

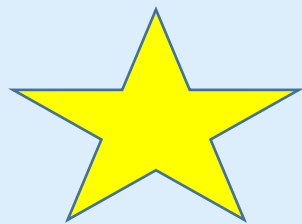
Steps to Success:

I can show that addition is commutative.

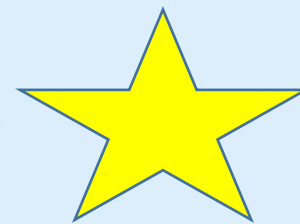
I can show that subtraction is not commutative.

I can record fact families.





Star Words



addition/add/plus



subtract/minus/take away



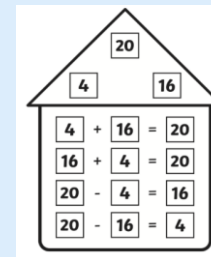
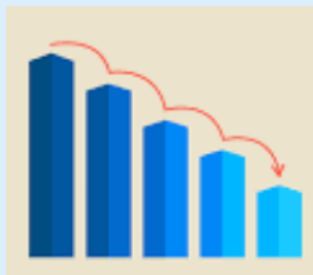
amount



more/increase

smaller/less/decrease

Fact families



Commutative

$$2 + 3 = 5$$

$$3 + 2 = 5$$

inverse (opposites)

$$2 + 3 = 5$$

$$5 - 3 = 2$$

total/equal



24.11.25

LQ: Can I find fact families?

Today we are going to practise finding fact families.

TPs: Does anyone know what fact families are?

What does commutative mean?

<https://www.youtube.com/watch?v=AMLRfww0qJg>

A fact family is a group of three related numbers that can be used to form two addition and two subtraction number sentences.

$$\begin{array}{l} 3 + 4 = 7 \\ 4 + 3 = 7 \\ 7 - 3 = 4 \\ 7 - 4 = 3 \end{array}$$

Commutative is a math rule that says you can change the order of numbers in an equation without changing the answer, as long as you are adding or multiplying.

$$\begin{array}{l} 2 + 3 = 5 \\ 3 + 2 = 5 \end{array}$$

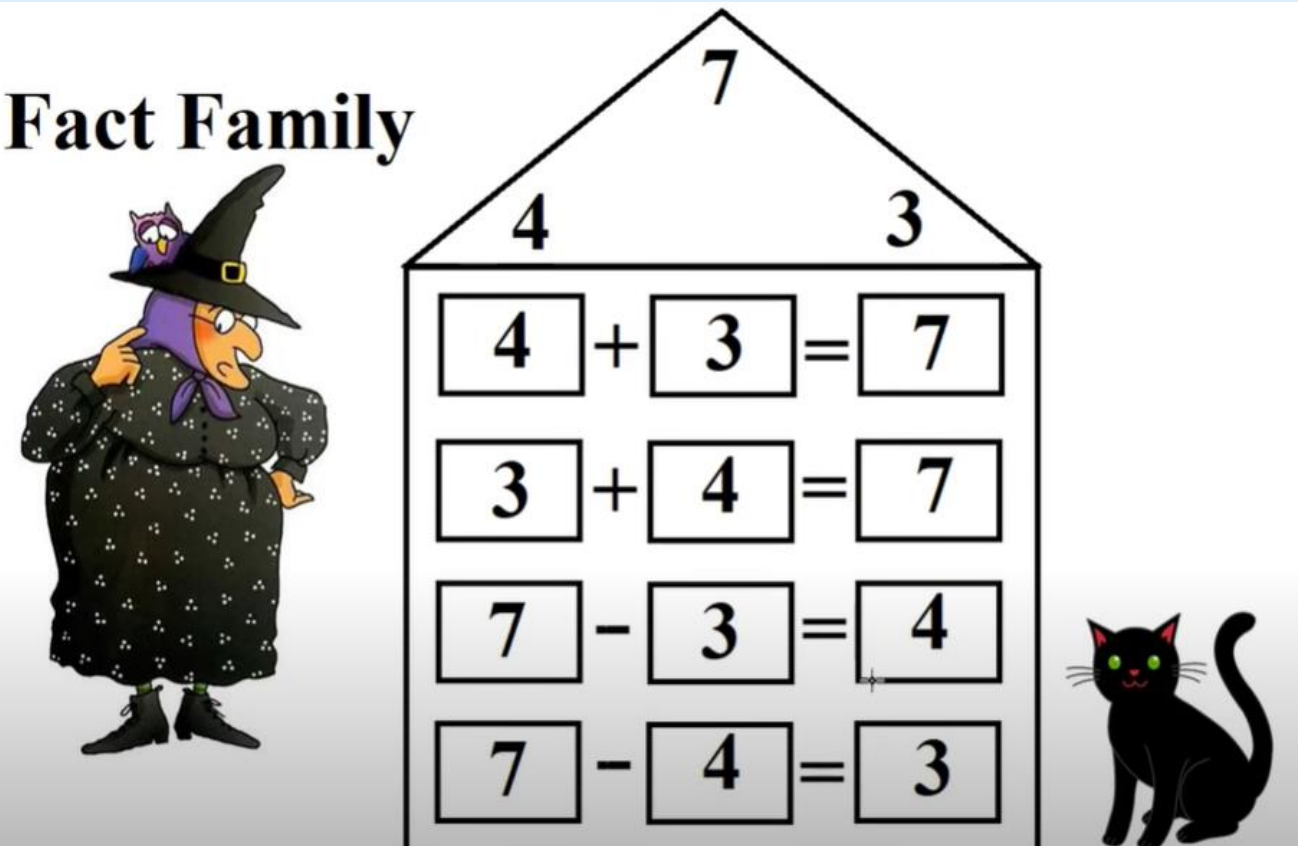
Can commutative be used for subtraction? Explain your reason.

24.11.25

LQ: Can I find fact families?

A fact family is a group of maths facts using the same numbers. In addition and subtraction we use the same three numbers to get four facts. There are two addition facts and two subtraction facts.

Fact Family



The diagram is shaped like a house. The roof is a triangle with the number 7 at its peak. The left side of the roof is labeled with the number 4, and the right side is labeled with the number 3. The main body of the house is a rectangle containing four rows of mathematical equations, each with numbers in boxes:

4	+	3	=	7
3	+	4	=	7
7	-	3	=	4
7	-	4	=	3

TPs– What three numbers are used?

What do you notice about the number 7?

24.11.25

LQ: Can I find fact families?

Some apples are hanging on the tree and some apples have fallen to the ground. I am going to use counters to represent the apples.



First we need to count both parts and record the numbers before we can work out the whole number.

I will use the part-whole model to help me fill in the two parts and find the whole number. I want you to copy me.

How many apples are hanging from the tree?

How many apples are on the ground?

24.11.25

LQ: Can I find fact families?

$$7 + 5 = 12$$



We can use the same three numbers to make fact families.

TPs: What other ways can we record this?

Does it matter what numbers we start with? Why? Why not?

Let's work together to find the four facts. Use the same sets of counters to help you.

24.11.25

LQ: Can I find fact families?

TPs: Are all the calculations correct? Explain.

$$32 + 6 = 38$$

$$38 = 32 + 6$$

$$6 + 32 = 38$$

$$38 = 6 + 32$$

$$38 - 6 = 32$$

$$38 = 32 - 6$$

$$38 - 32 = 6$$

$$38 = 6 - 32$$

Yes, all the calculations are correct because...

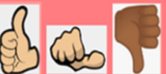
No, all the calculations are not correct because...

No, she is incorrect because the last number sentence is $6 - 32 = 38$.

We cannot subtract a big amount from a small amount.

Self assessment

Do you understand the tasks?



24.11.25

Tasks

LQ: Can I find fact families?



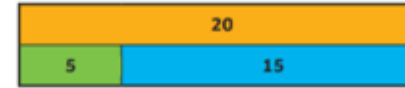
addition, increase, subtraction, decrease, inverse, fact families



1. Copy each number sentence and complete the fact family. Remember to complete two addition facts and two subtraction facts.

$9+8=$ + =
 $12+7=$ + =
 $8+10=$ - =
 $14+2=$ - =
 $7+6=$ - =

2. Rhiannon looked at this bar model:



She wrote these calculations:

$5 + 15 = 20$	$20 = 15 + 5$
$5 + 15 = 20$	$20 = 5 + 15$
$20 - 5 = 15$	$20 = 15 - 5$
$20 - 15 = 5$	$20 = 5 - 15$

Has she written the calculations correctly? Explain your answer.

Yes, Rhiannon has written the calculations correctly because...

No, Rhiannon has not written the calculations correctly because...

3. Here is an incomplete bar model. The total is greater than 10 but less than 20



What could the missing numbers be?
How many different combinations can you find?

Today I learnt to find fact families for addition and subtractions. I used concrete resources to help to add and subtract and used my prior knowledge of commutative law.

9+8

12+7

8+10=

14+2=

+ =
 + =
 - =
 - =

Self assessment
Do you understand the tasks?

Tuesday 25th November 2025

25.11.25

Mental Maths

Make 5 pence using these coins.

How many combinations can you find?

HINT – You may need to use the same coins several times.





LQ: Can I find fact families?

Steps to Success:

I can show that addition is commutative.

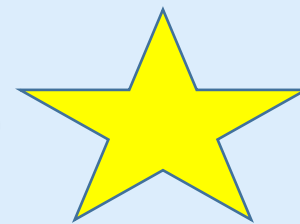
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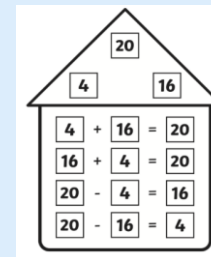
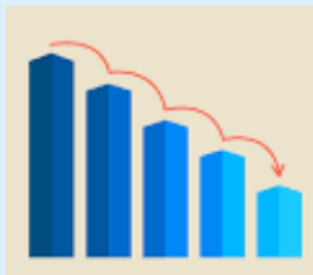
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smaller/less/decrease

Fact families



Commutative

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inverse (opposites)

$$2 + 3 = 5$$

$$5 - 3 = 2$$

total/equal



25.11.25

LQ: Can I find fact families?

Today we are going to continue with finding fact families.

TPs- What does commutative mean?

Can commutative be used for subtraction? Explain your reason.

Commutative is a math rule that says you can change the order of numbers in an equation without changing the answer, as long as you are adding or multiplying.

$$**2 + 3 = 5**$$

$$**3 + 2 = 5**$$

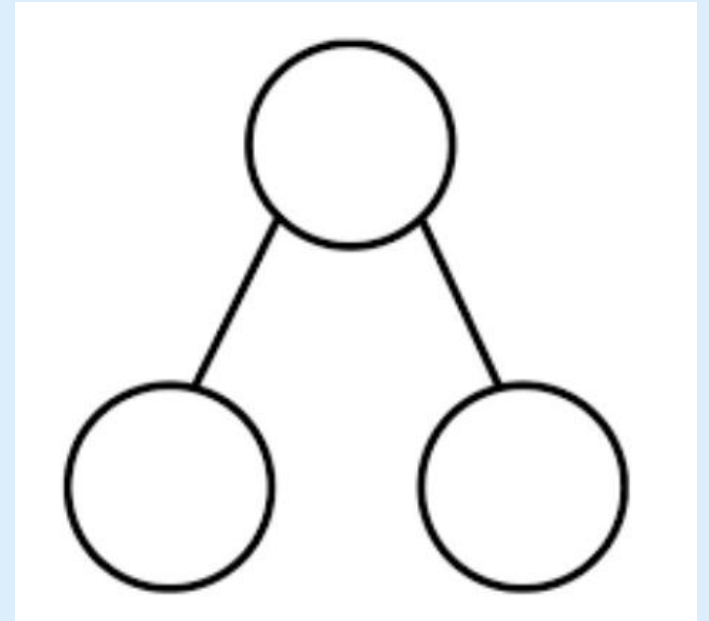
25.11.25

LQ: Can I find fact families?

There are **6** ducks swimming in the pond. **8** more join them.



Let's record the two parts on a part- whole model and find the whole.



25.11.25

LQ: Can I find fact families?

Using the three numbers **6**, **8** and **14**, we can form four different number sentences.
Let's work together to complete the four facts using the numbers **6**, **8** and **14**.



TP – What numbers would you start with? Why?

What will the next two number sentences involve?

How do you know?

25.11.25

Tasks

LQ: Can I find fact families?



addition, increase, subtraction, decrease, inverse, fact families



1. Copy each number sentence and complete the fact family.

- 11+3= + =
- 14+5= + =
- 8+5= - =
- 16+2= - =
- 9+6= - =

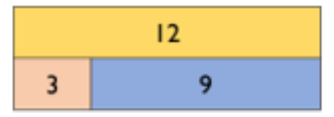
2. Rosie says all these facts are correct.



- 8 - 5 = 3
- 8 - 3 = 5
- 8 = 5 - 3
- 3 = 8 - 5

Ron disagrees.
Who is correct?
Can you prove it?

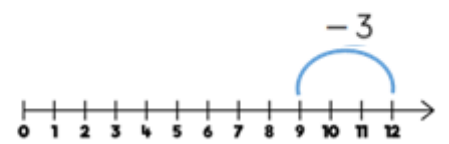
3. Which of the representations are equivalent to the bar model?



$12 = 9 + 3$

There are 9 cars in a car park, 3 cars leave.

$9 - 3 = 12$



Today I found fact families for addition and subtractions. I wrote the two addition and two subtraction calculations using the three numbers in each set.

- 13+5 15+4 21+3= 22+6
- + =
- + =
- =
- =

Self assessment
Do you understand the tasks?

Wednesday 26th November 2025

26.11.25

Mental Maths

How many 1p do you need to make 10?

How many 2p do you need to make 10?





LQ: Can I find related fact?

Steps to Success:

I can show that addition is commutative.

I can make links to find related facts.

I can record related facts.



★ Star Words ★

addition



amount



more/increase



Related facts

2	+	3	=	5
20	+	30	=	50

tens ones

2	7
1	3

Commutative

$$2 + 3 = 5$$
$$3 + 2 = 5$$

total



26.11.25

LQ: Can I find related fact?

Today we will practise finding related facts.

TP- What do you remember about number bonds?

Number bonds to 10 are pairs of numbers that add up to 10.

<https://www.youtube.com/watch?v=GLNIqkhD0y0>

$0 + 10 = 10$

$1 + 9 = 10$

$2 + 8 = 10$

$3 + 7 = 10$

$4 + 6 = 10$

$5 + 5 = 10$

$10 + 0 = 10$

$9 + 1 = 10$

$8 + 2 = 10$

$7 + 3 = 10$

$6 + 4 = 10$

$5 + 5 = 10$

26.11.25

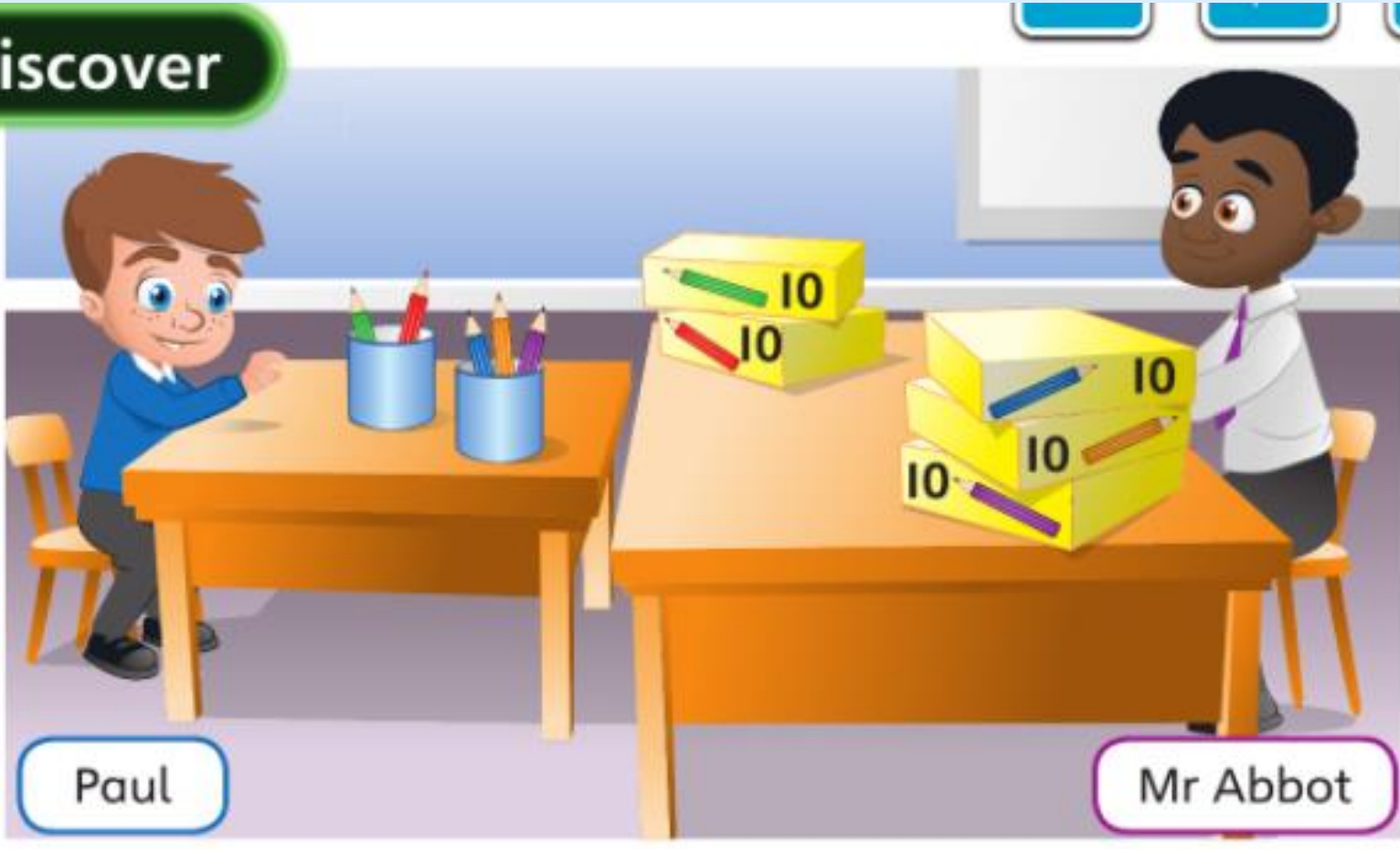
LQ: Can I find related fact?

TP- How many pencils does **Paul** have?

What do you know about $2 + 3$?

What other facts can you work out from this?

Discover



TP – How many pencils does **Mr Abbot** have?

$20 + 30$

What is the same?

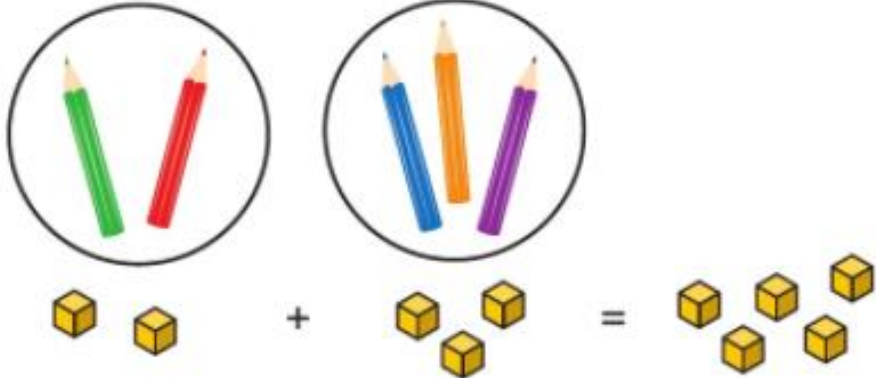
What is the difference?

Let's explore this.

TP - What do you notice about the digits in both number sentences?

The signs and some of the digits are the same. Some of the numbers are ones. Some of the numbers are tens.

a)

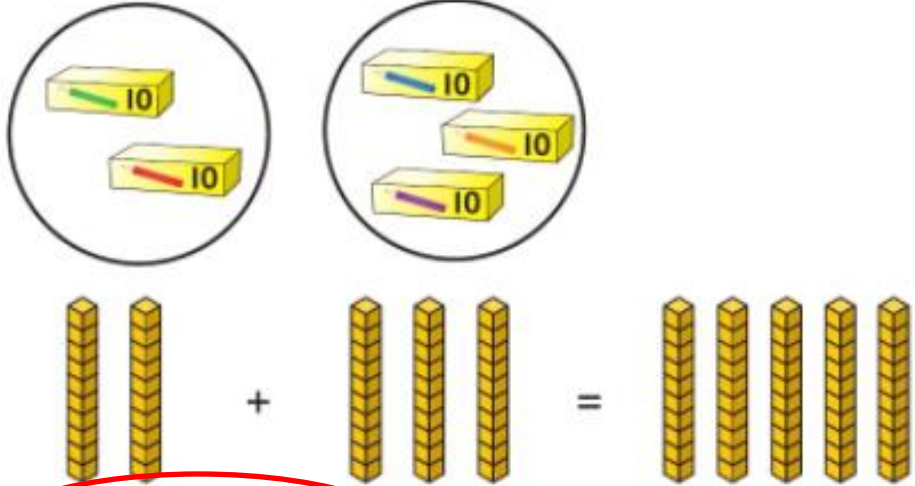


$2 + 3 = 5$

Paul has 5 pencils.

I wrote $5 = 2 + 3$.

b)



$20 + 30 = 50$

Mr Abbot has 50 pencils.

LQ: Can I find related fact?

a)

Diagram a) illustrates the addition of two groups of pencils. The first group contains 2 pencils (green and red), and the second group contains 3 pencils (blue, orange, and purple). These are represented by 2 and 3 yellow cubes respectively. The sum is 5 cubes. A part-whole model shows a central circle with '5' connected to two smaller circles with '2' and '3'. A small icon of a person is visible in the top right corner.

Let's use dienes and the part-whole model to represent both Paul's and Mr Abbots pencils.

b)

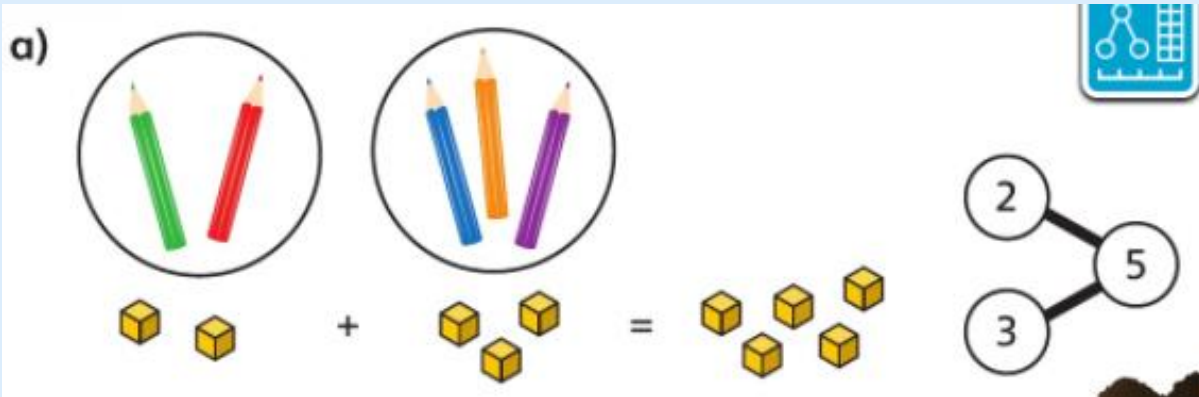
Diagram b) illustrates the addition of two groups of dienes. The first group contains 2 dienes (each labeled '10'), and the second group contains 3 dienes (each labeled '10'). These are represented by 2 and 3 yellow cubes respectively. The sum is 5 cubes. A part-whole model shows a central circle with '50' connected to two smaller circles with '20' and '30'. A small icon of a person is visible in the top right corner.

20 + 30 = 50

26.11.25

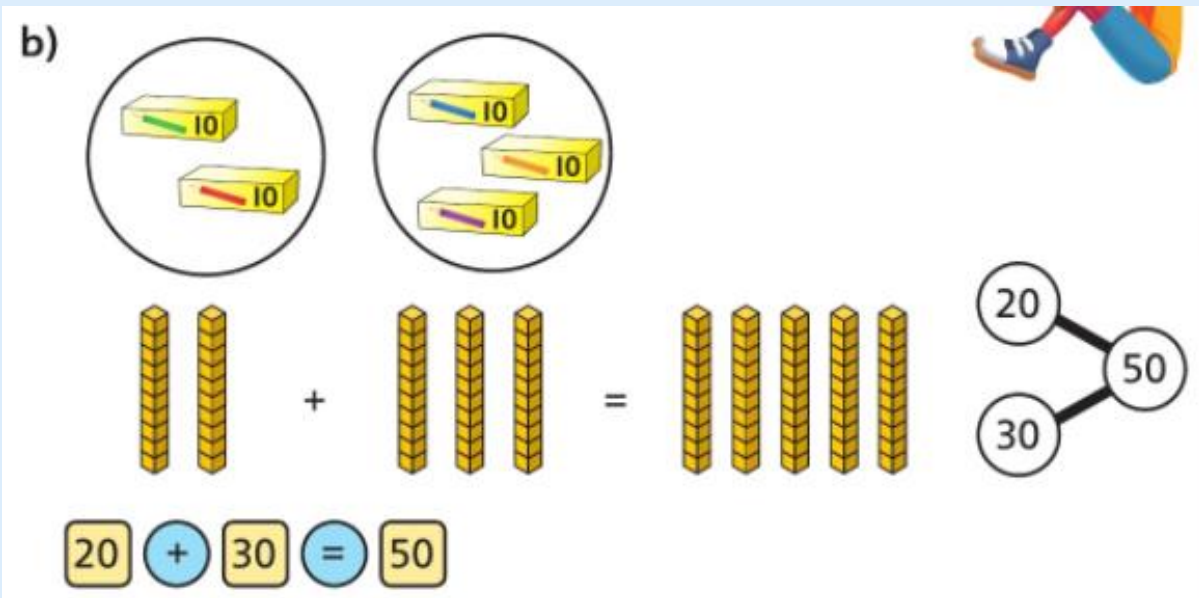
LQ: Can I find related fact?

There are lots of different ways to find related facts by changing the **tens** and **ones** digits but today we are going to find related facts by **only changing the tens digits**.



Paul has $2 + 3 =$

Mr Abbot has $20 + 30 =$



So "If I know $2+3=5$,

I also know $20+30=50$ ".

Let's find the related facts using the dienes.

$$3 + 1 = \underline{\quad}$$

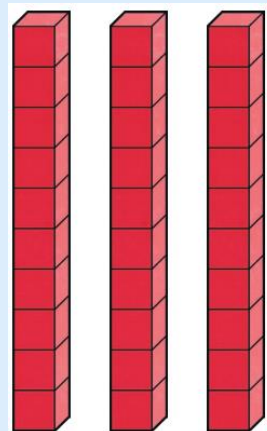
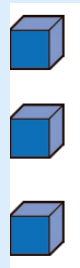
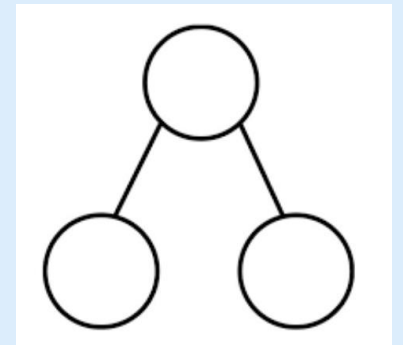
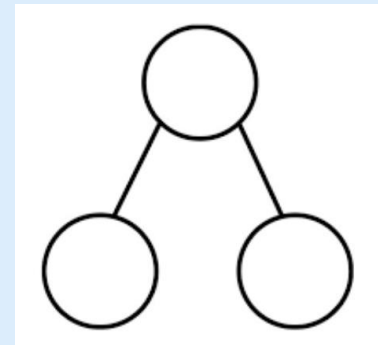
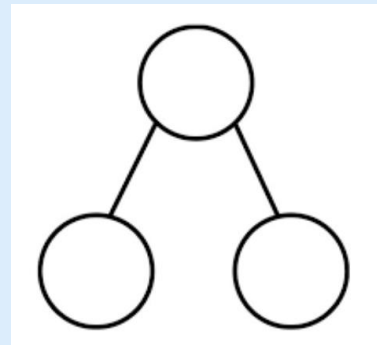
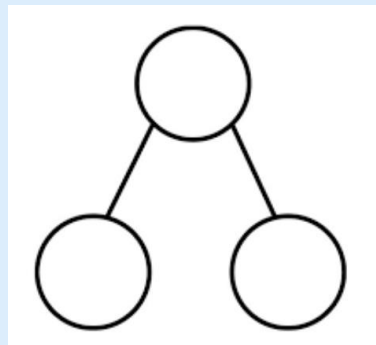
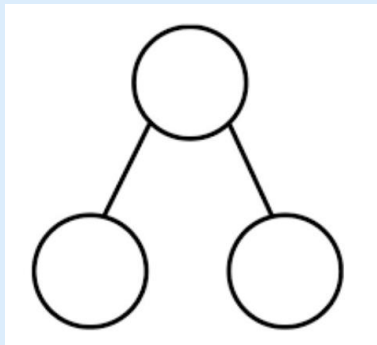
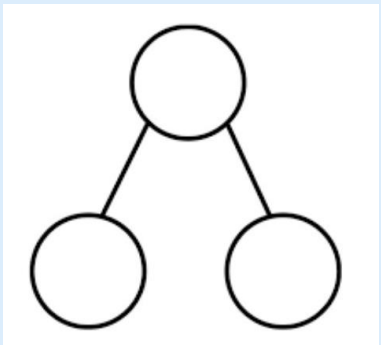
$$4 + 2 = \underline{\quad}$$

$$5 + 3 = \underline{\quad}$$

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

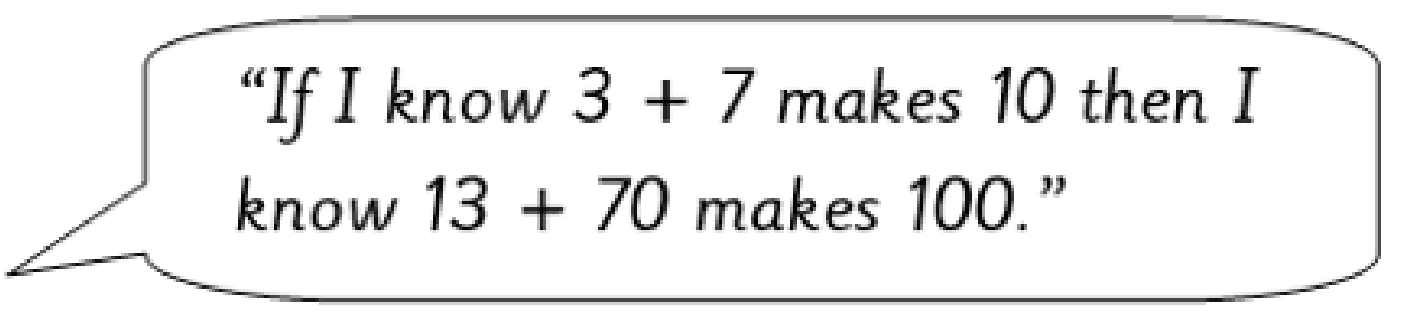


Self assessment
Do you understand how to find related facts?

26.11.25

LQ: Can I find related fact?

Areesha says,



"If I know $3 + 7$ makes 10 then I know $13 + 70$ makes 100."

TP – Do you agree with Areesha?

Explain your answer.

Yes, I agree because...

No, I disagree because...

26.11.25

Task

LQ: Can I find related fact?

Practise finding related facts for the following numbers.

Use the dienes and the part-whole model to help understand the link between the related facts.

Explain your work by using the stem sentence:

“If I know ___ + ___ is ___, I also know ___ + ___ is ___.”

$$2+4= \quad 2+6= \quad 5+4= \quad 7+3= \quad 6+1=$$

Self assessment

Do you understand the task?



Thursday 27th November 2025

27.11.25

Mental Maths

Can you identify these notes?

How much are they worth?





LQ: Can I find related fact?

Steps to Success:

I can show that addition is commutative.

I can make links to find related facts.

I can record related facts.



★ Star Words ★

addition



amount



more/increase



Related facts

2	+	3	=	5
20	+	30	=	50

tens ones

2	7
1	3

Commutative

$$2 + 3 = 5$$
$$3 + 2 = 5$$

total



27.11.25

LQ: Can I find related fact?

Today we will continue to find related facts.

TPs: What do you remember about finding related facts?

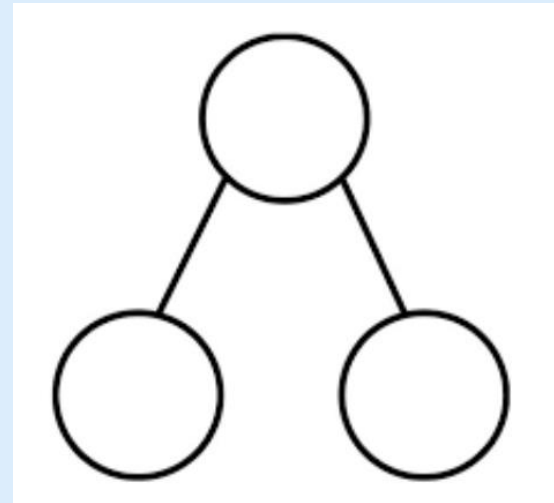
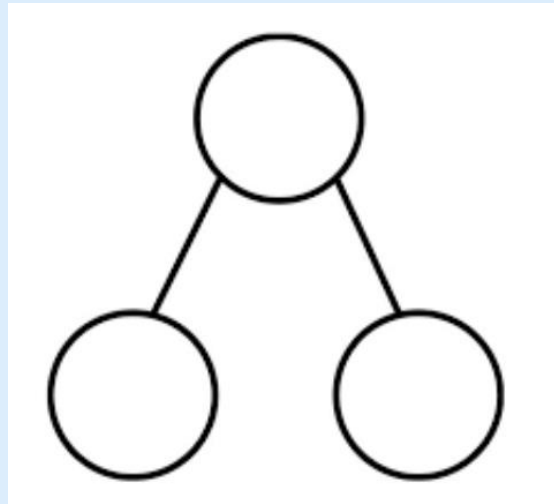
What happens to the digits?

The digits changes to...

27.11.25

LQ: Can I find related fact?

Let's find the related facts together for this number sentence using *dienes* and the *part-whole* model. $5 + 4$



TP – What happened to the digits?

How do you know this?

Remember to use the first fact to help you work out the second fact.

Let's find the related facts.

Remember, we are only changing the numbers into tens.

$$8 + 1 = \underline{\quad}$$

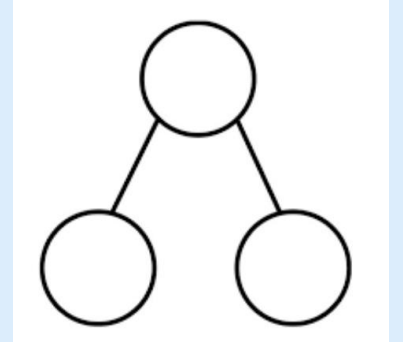
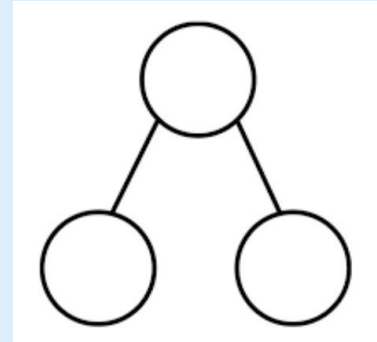
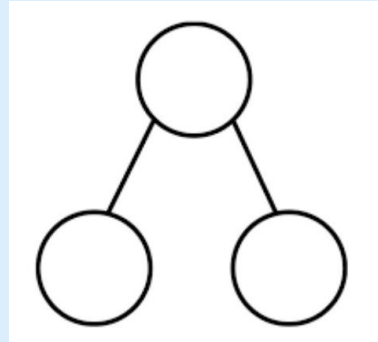
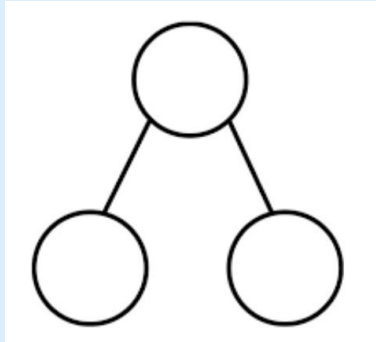
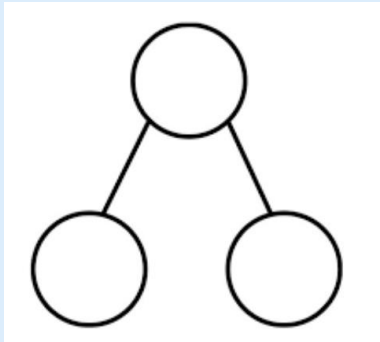
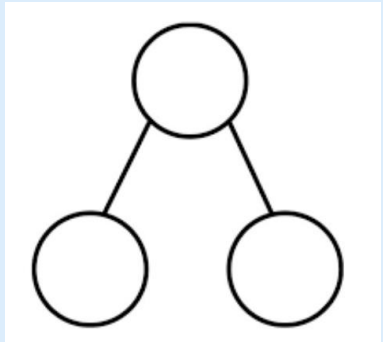
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$$4 + 3 = \underline{\quad}$$

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

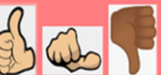
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Self assessment

Do you understand how to
find related facts?



27.11.25

Tasks

LQ: Can I find related fact?

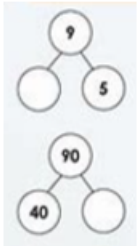


addition, increase, related facts



1. Use the dienes to find the related facts for the following numbers. Record your work using the part-whole model.

- 5+4=
- 2+3=
- 4+3=
- 9+1=
- 7+2=



2. Alex says,



If I know $9 + 1 = 10$, I can work out $90 + \underline{\quad} = 100$

Find the missing number and explain how Alex knows.

3. Ravi has 17 felt tips. Some are in his spotty pencil case and some are in his purple pencil case.



Think of one way that the felt tips could be split between the pencil cases.

Write 8 different calculations and draw a part-whole model to show this

Today I learnt to find related facts by changing the 1-digit numbers to tens. I used base ten resources to add two 1-digit numbers and then changed them to tens numbers to help me work out the related facts.

$2+1=\underline{\quad}$

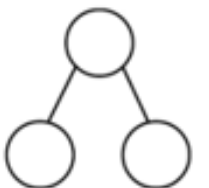
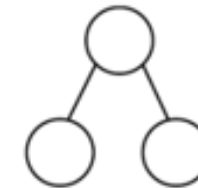
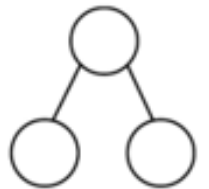
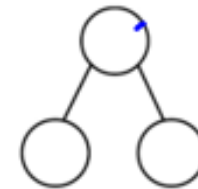
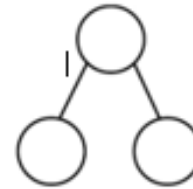
$3+2=\underline{\quad}$

$5+4=\underline{\quad}$

$\underline{\quad} + \underline{\quad} = \underline{\quad}$

$\underline{\quad} + \underline{\quad} = \underline{\quad}$

$\underline{\quad} + \underline{\quad} = \underline{\quad}$



Self assessment

Do you understand the tasks?



Friday 28th November 2025

28.11.25

Mental Maths

*Can you count in twos.
Sing along to this video.*

<https://www.youtube.com/watch?v=GvTcpfSnOMQ>



LQ: Can I recognise coins?

Steps to Success:



I can name the different coins.

I can put coins in order of their value.

I can use money vocabulary (pence).

I can make the value of different amounts using 1 pence coins.

★ Star Words ★

money



coins



pence



amount



value



total



smallest



greatest



28.11.25

LQ: Can I recognise coins?

Today we are going to identify coins and discuss their value.

TP – What do you already know about money?

Why do we need money?



28.11.25

LQ: Can I recognise coins?

Today we are going to learn to recognise different coins and discuss the value of each coin.



TP – What coins in the tray shall we start with?

What are their coin names?

On your table there is a tray with coins. Explore the coins with your partner.

28.11.25

LQ: Can I recognise coins?

TP – What do you know about the colour of the coins?

What do you know about the size of the coins?

What do you know about the shape of coins?

Some coins are called pence and some coins are called pound.



This is a 1 pence coin.

This coin has the smallest value.



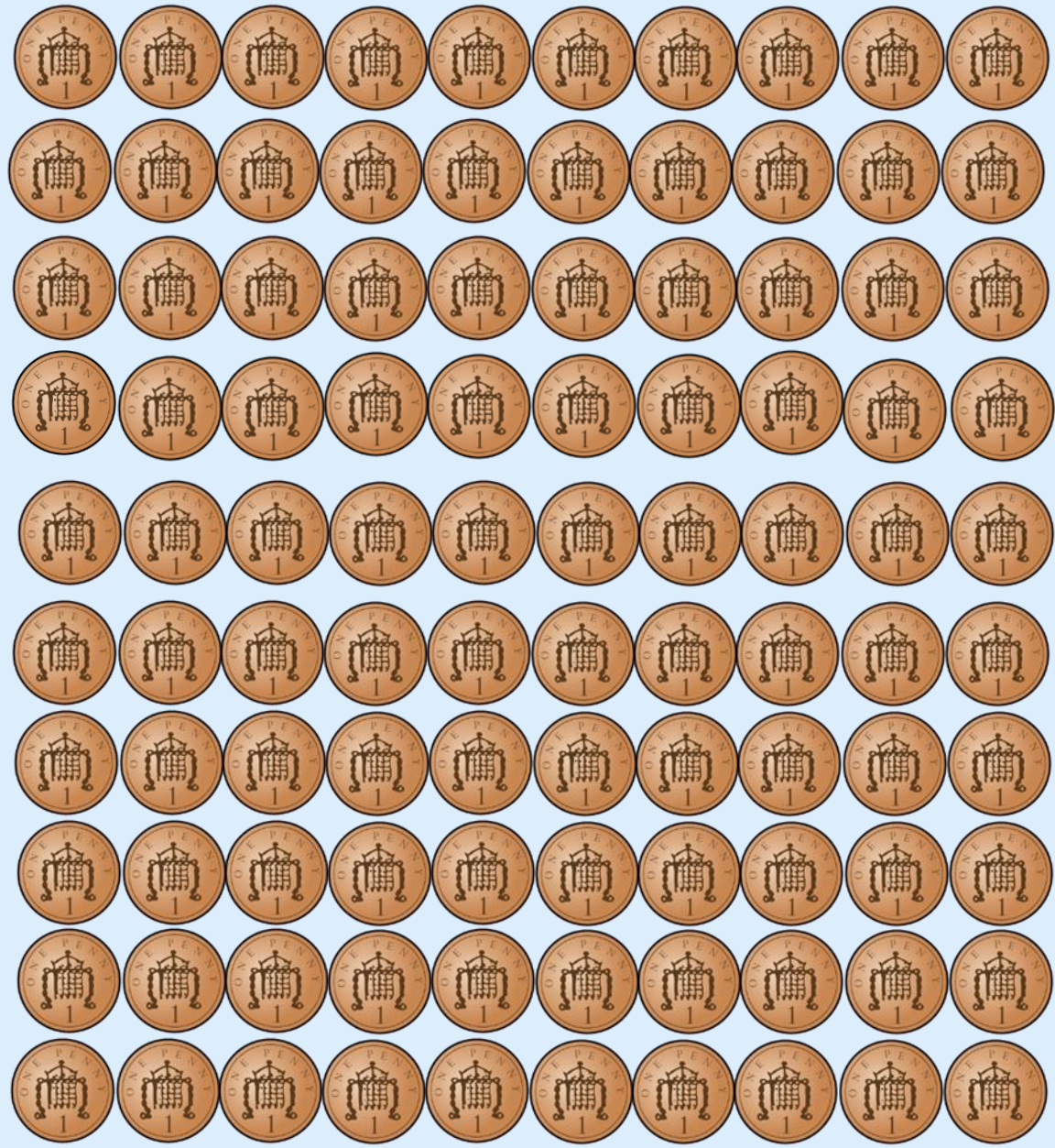
This is a one pound coin.

It has a greater value than a 1 pence coin.

LQ: Can I recognise coins?



==



We will need one hundred 1p coins to make the equivalent (same) to one pound.

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LQ: Can I recognise coins?



*TP – Which coin is missing?
How do you know?*

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LQ: Can I recognise coins?

Let's work together to place the coins in order of its value from smallest to greatest.



TP – What the size of the coins decide it's value?

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LQ: Can I recognise coins?

Dora says "All coins are round". Do you agree with her. Justify your answer.

Yes, I agree because...

No, I disagree because...



Which coins can you use to make 50p?

Let's find all the possible combinations by drawing the coins and labelling them.

Task

Work with your partner and write the value for each coin.

Use the 1p coins to make the following amounts:

2p 5p 10p 20p

What coins can you use to make 50p? Prove it.



Self assessment

Do you understand the task?

