

# Skill - I can work out fact families using addition and subtraction up to 20.

- \* Fact Families
- \* Compare number sentences
- \* Check calculations
- \* Related facts



# Rapid Recall

## Number bonds game

Teacher stands on the middle.  
Throw the ball to children saying a number, they have to say the correct number that goes with it to make either 10 or 20.



# Big Question.....

**Caitlyn is double Rowan's age.**

**Next year, Caitlyn will be 4 years older than Rowan.**

**How old could Caitlyn be?**

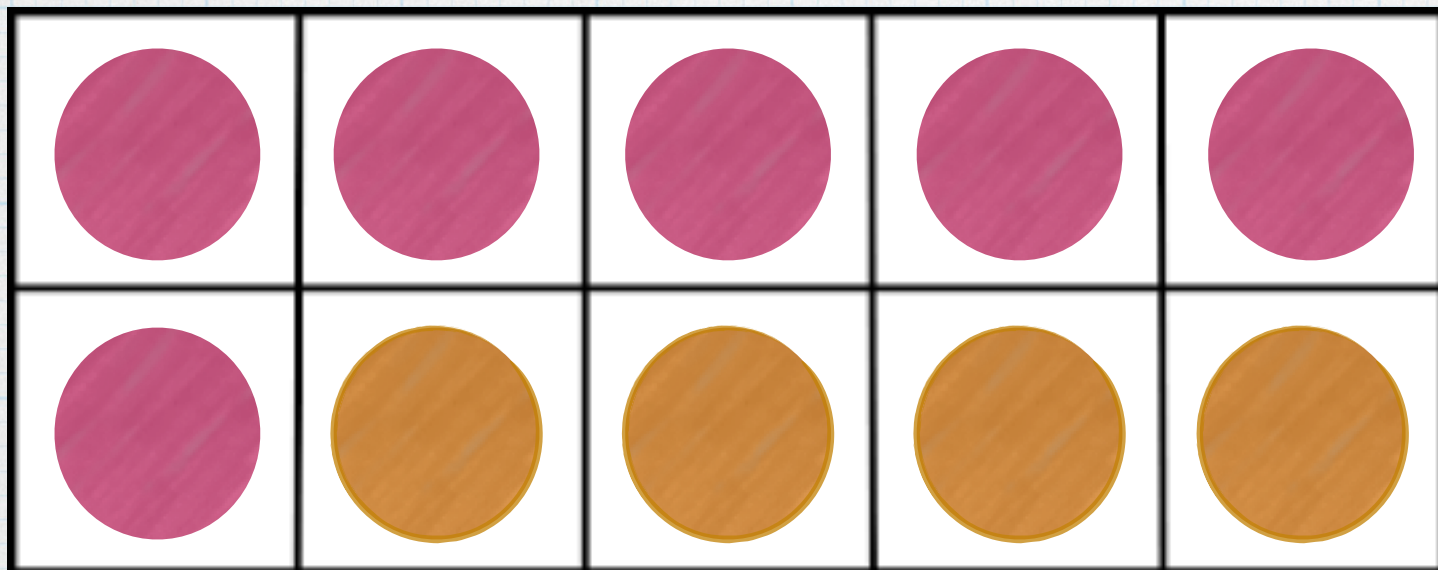




# Learning Partners

Using a tens frame and 10 counters, how many addition calculations can you make in 2 minutes?

You do not have to use all 10 counters every time!



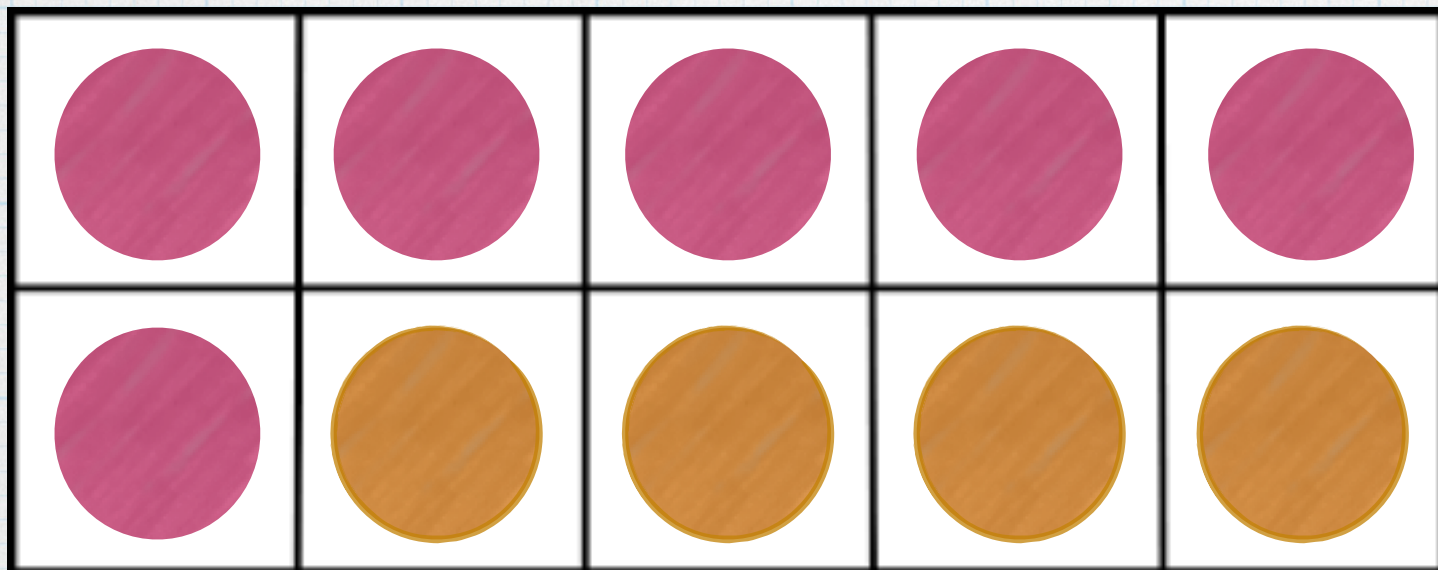
$$6 + 4 = 10$$



# Learning Partners

Using a tens frame and 10 counters, how many subtraction calculations can you make in 2 minutes?

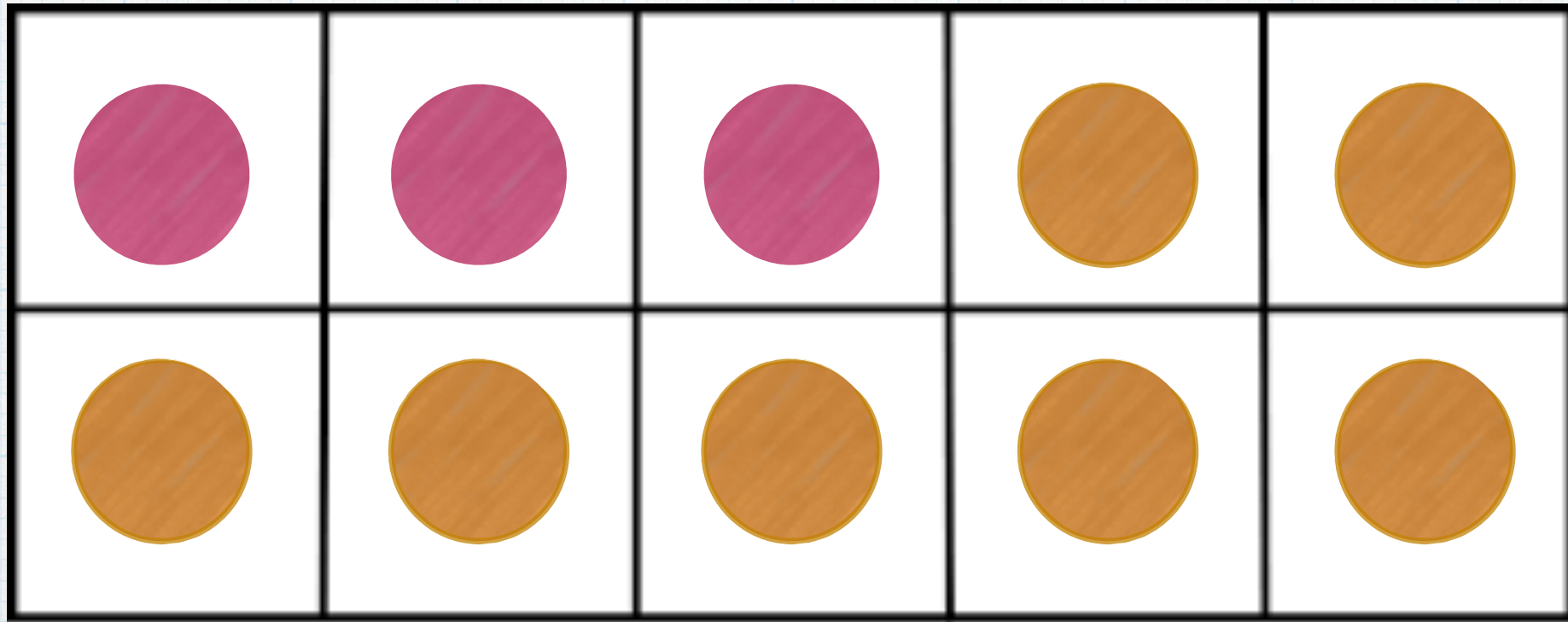
You do not have to use all 10 counters every time!



$$10 - 4 = 6$$



# Learning Partners



**Write 2 addition facts about this tens frame.**

**Write 2 subtraction facts about this tens frame.**



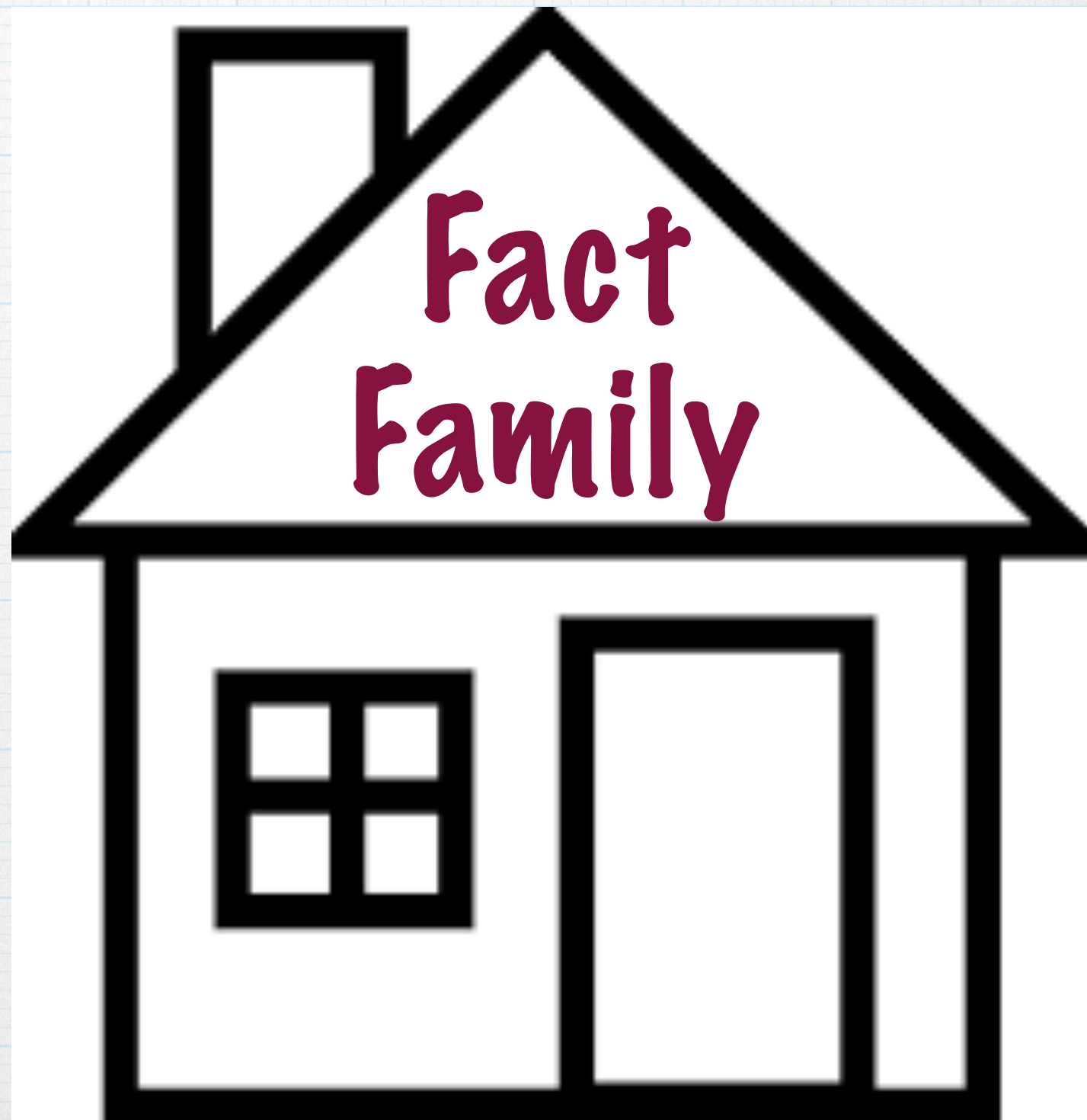
What do you notice about  
these number sentences?

$$3 + 7 = 10$$

$$7 + 3 = 10$$

$$10 - 7 = 3$$

$$10 - 3 = 7$$





# Independent Activity

Using the numbers 9, 5 and 4 can you.....

- \* Write 2 addition number sentences.
- \* Write 2 subtraction number sentences.
- \* Show your number sentences as whole-part models.
- \* Show your number sentences on the tens frame.



# Skill - I can work out fact families using addition and subtraction up to 20.

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# Rapid Recall

<https://www.youtube.com/watch?v=3mUuvdKFmk>

**Play this game but instead of rock, paper, scissors, the teacher will shout out a number bond and the child who answers first wins and the other child goes to the back of their line.**

**Play this outside if weather allows.**



# Big Question.....

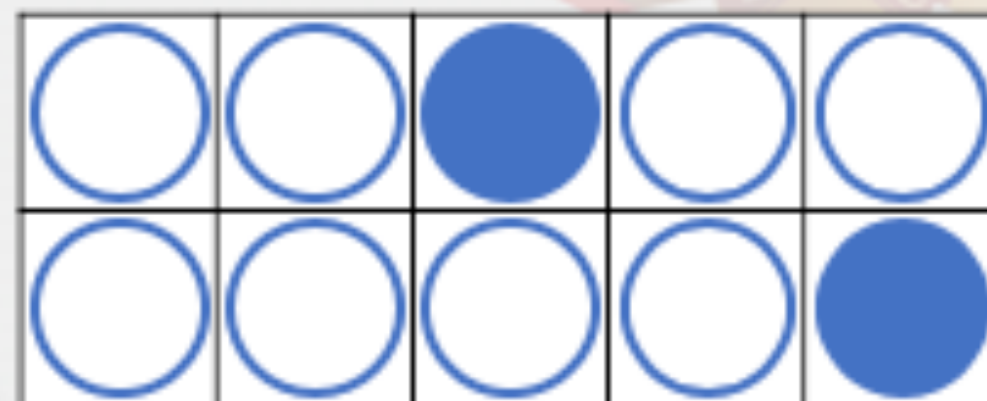
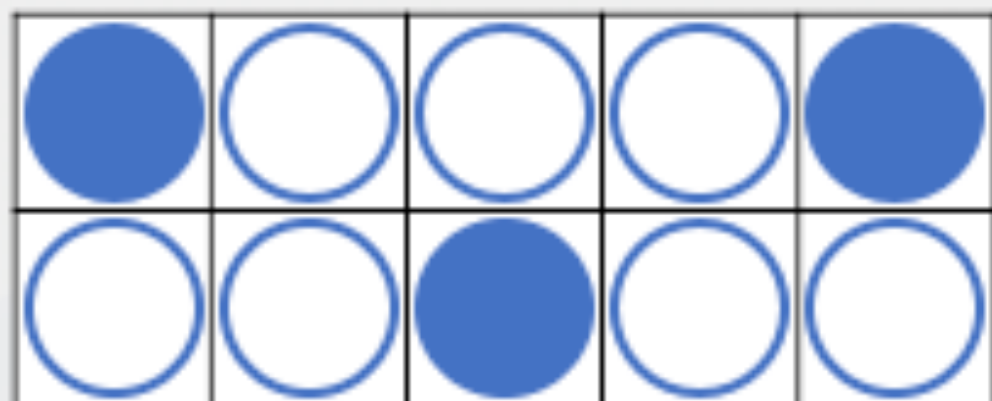
Which number sentence does not match the counters in these ten frames?

$$15 + 5 = 20$$

$$5 + 15 = 20$$

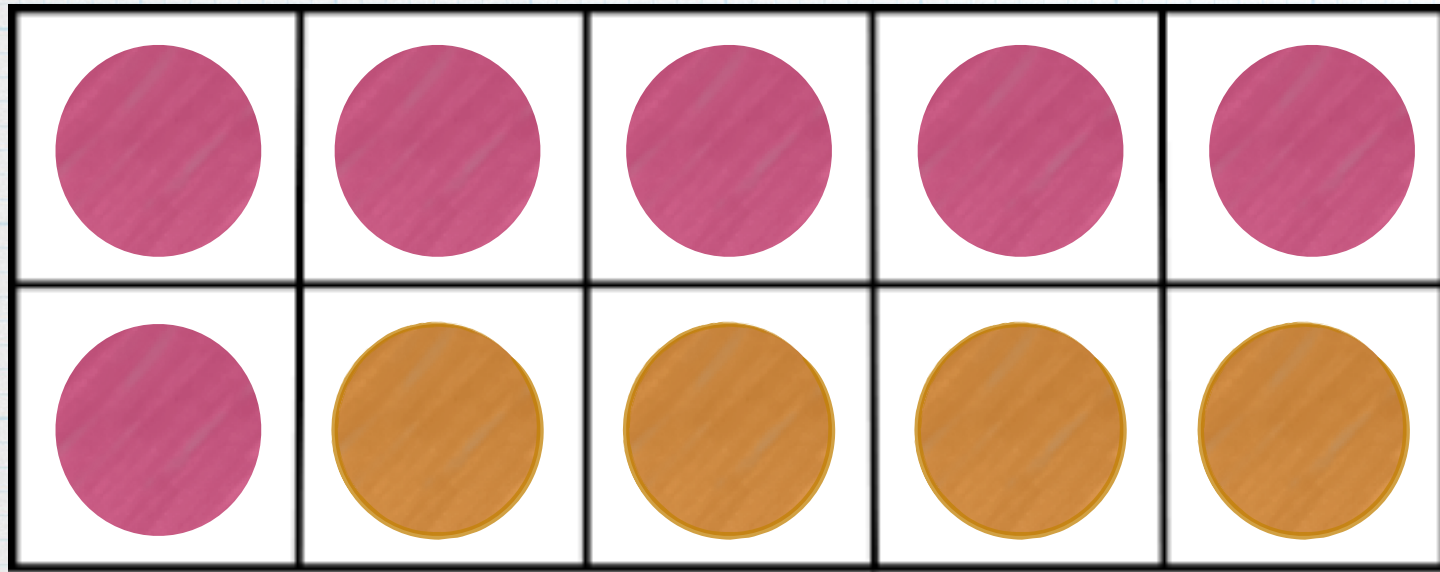
$$20 - 5 = 15$$

$$15 - 20 = 5$$





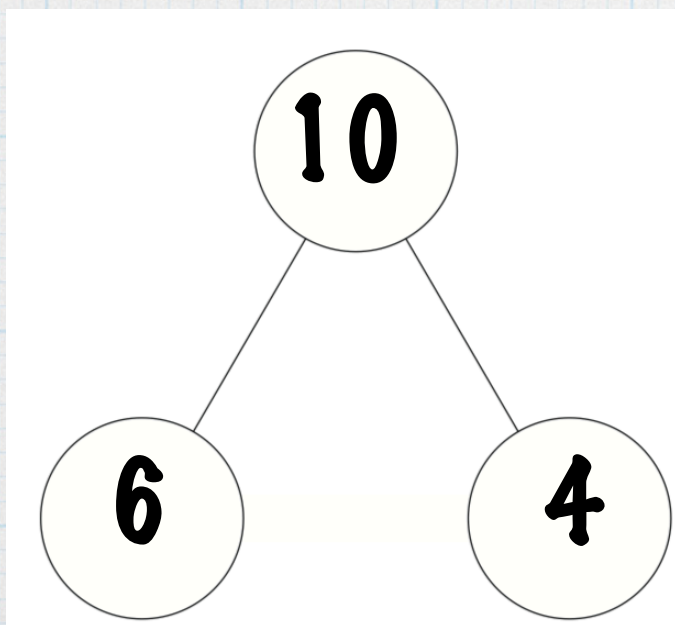
# Learning Partners



How else can we  
represent this number  
sentence?

$$6 + 4 = 10$$

**Whole-part Model**



**Fact Family.....**

$$6 + 4 = 10$$

$$4 + 6 = 10$$

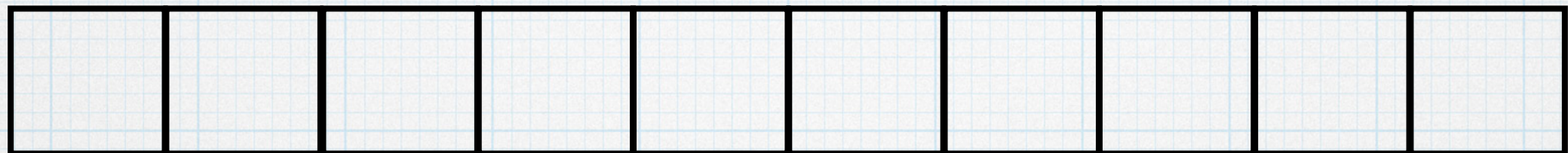
$$10 - 4 = 6$$

$$10 - 6 = 4$$



# Or as a Bar Model.....

$$6 + 4 = 10$$

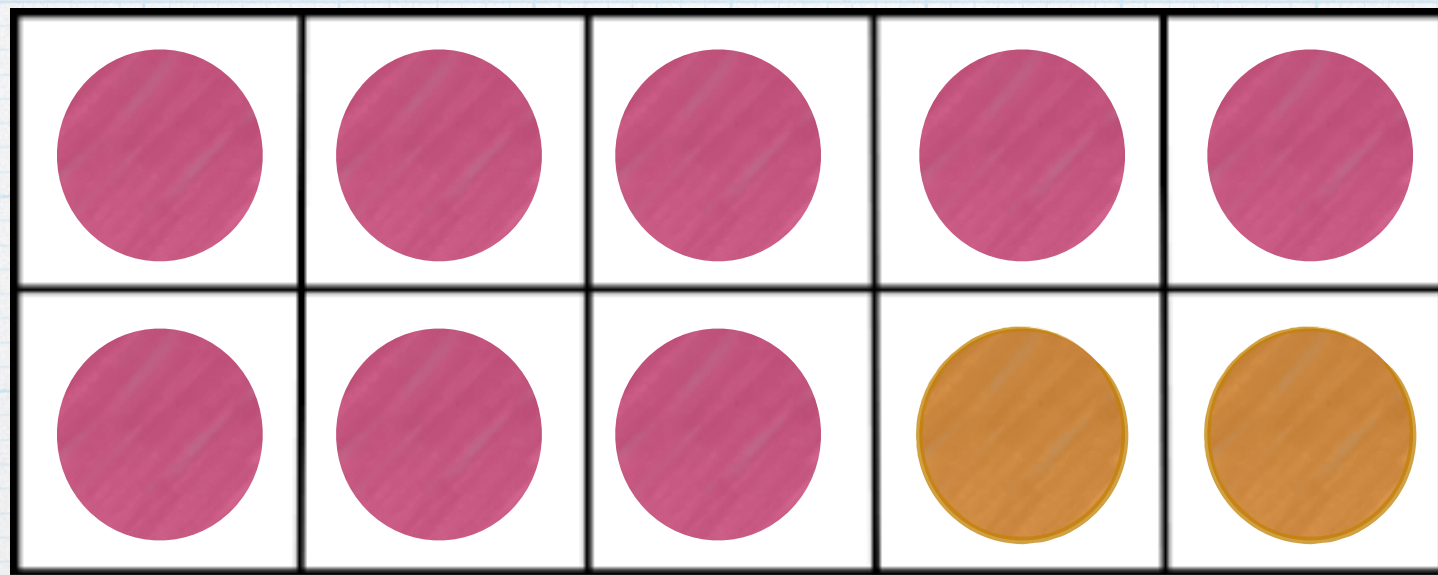




# Learning Partners

**Can you represent the number sentence below in a bar model?**

$$2 + 8 = 10$$

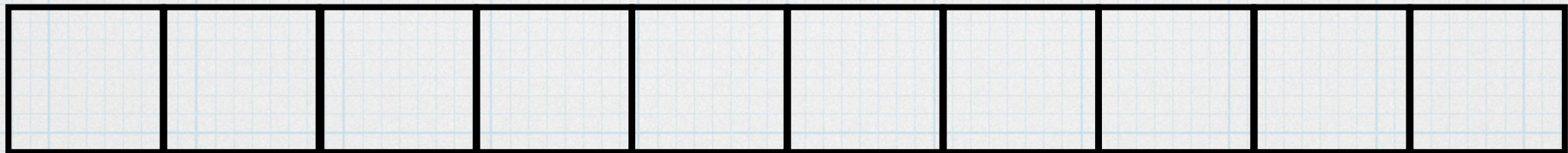
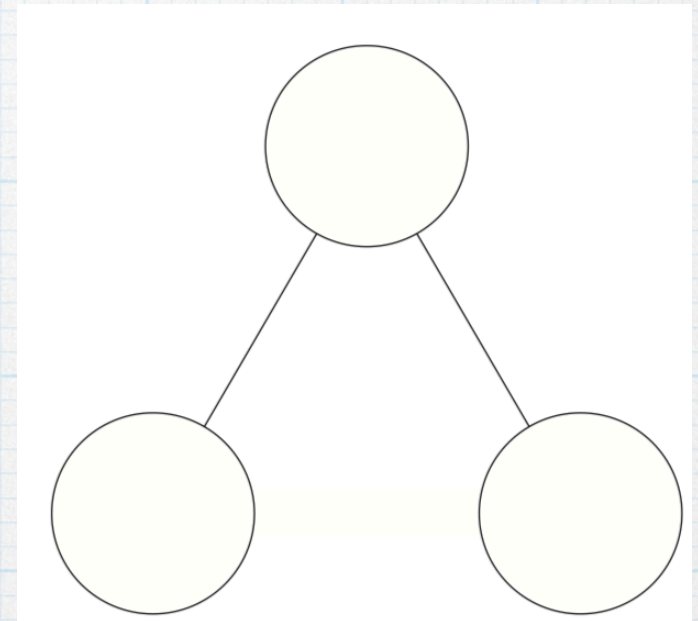
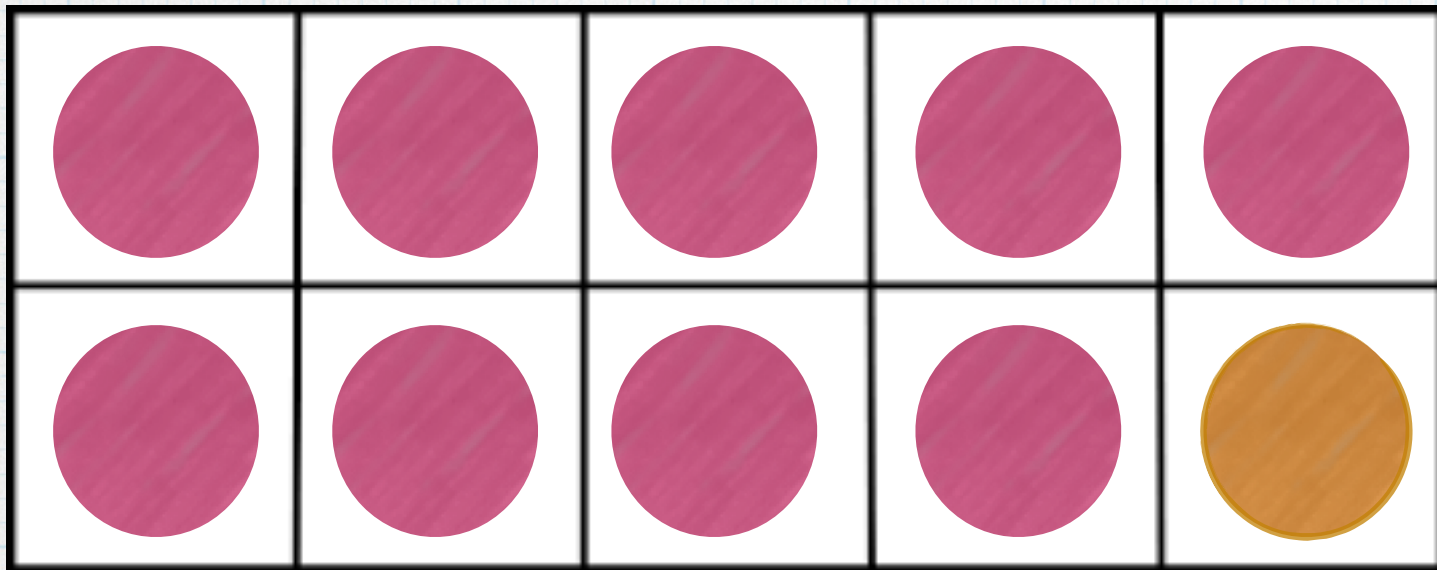
[illegible]



# Learning Partners

Can you represent the number sentence below in a bar model and a whole part model?

$$1 + 9 = 10$$

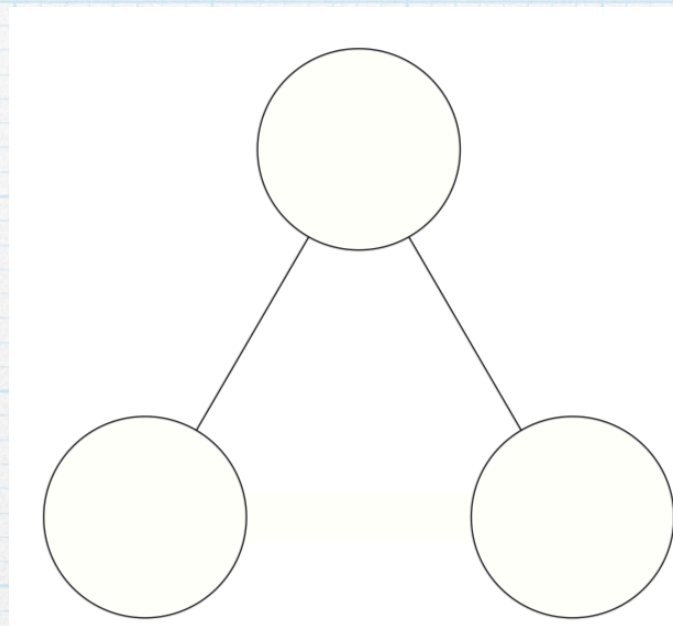
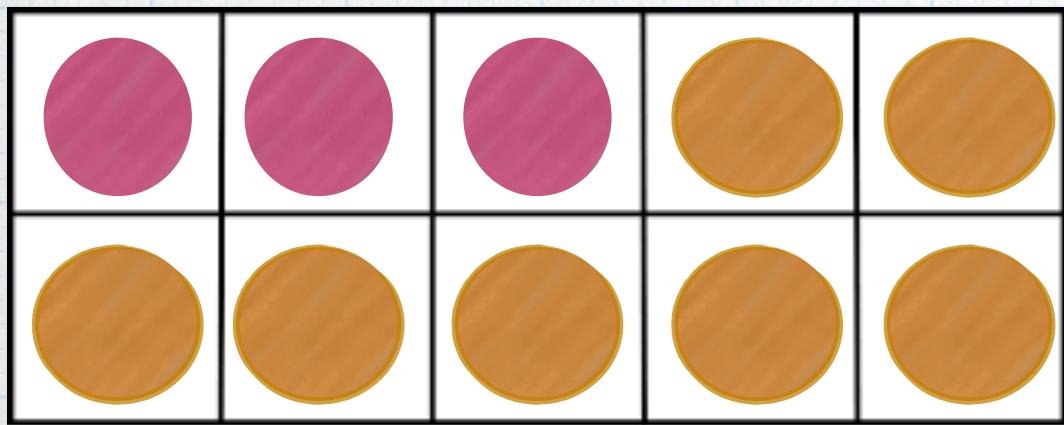




# Learning Partners

**Can you represent the number sentence below in a bar model, a whole part model and write the 4 fact families?**

**3 + 7 = 10**



# Fact Family



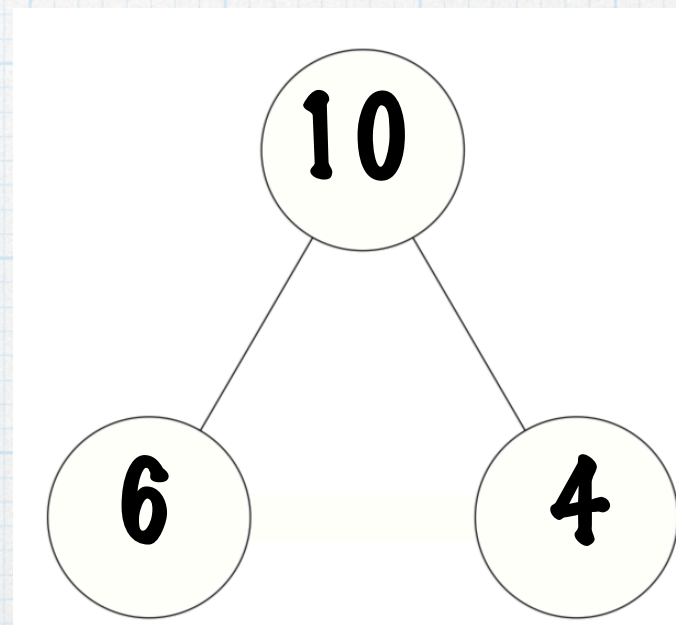
# Reasoning and problem solving

Which representation is wrong and why?



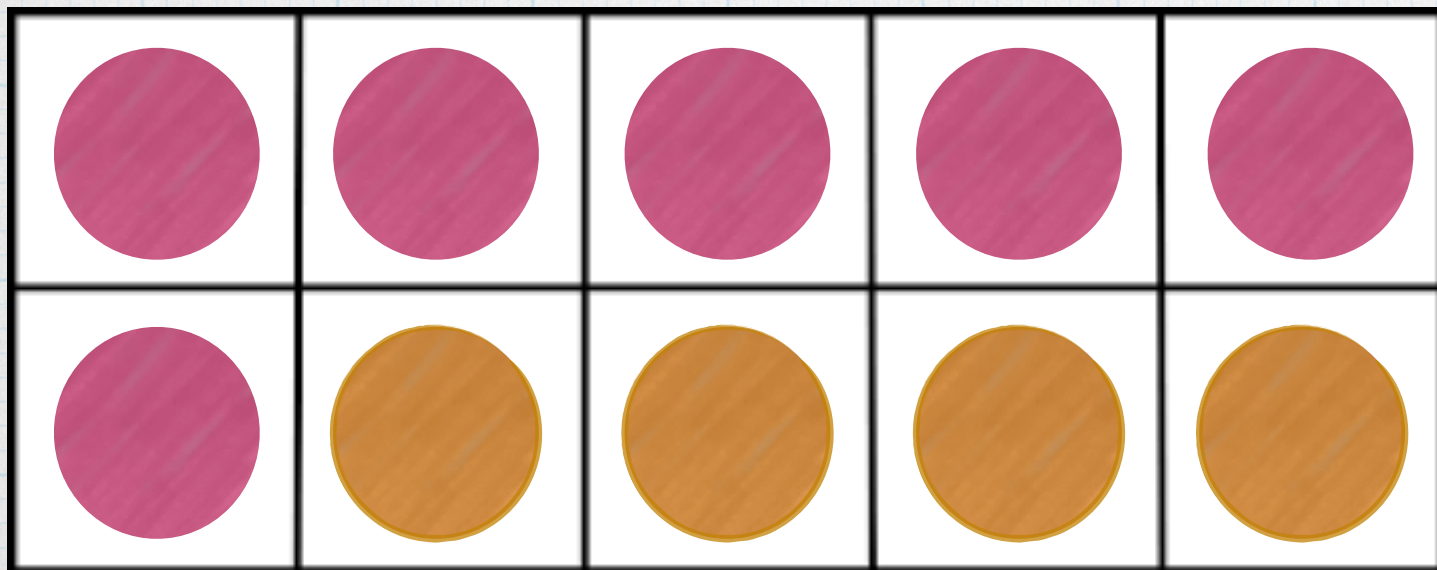
$$6 + 4 = 10$$

$$4 + 6 = 10$$



$$10 - 6 = 4$$

$$4 - 10 = 6$$





# Skill - I can work out fact families using addition and subtraction up to 20.

- \* Fact Families
- \* Compare number sentences
- \* Check calculations
- \* Related facts



# Rapid Recall

[https://www.topmarks.co.uk/  
maths-games/daily10](https://www.topmarks.co.uk/maths-games/daily10)



# Today's question....

**6b. True or false?**

**If  $11 + 6 = 17$ , then  $17 + 6 = 11$ .**

**6a. True or false?**

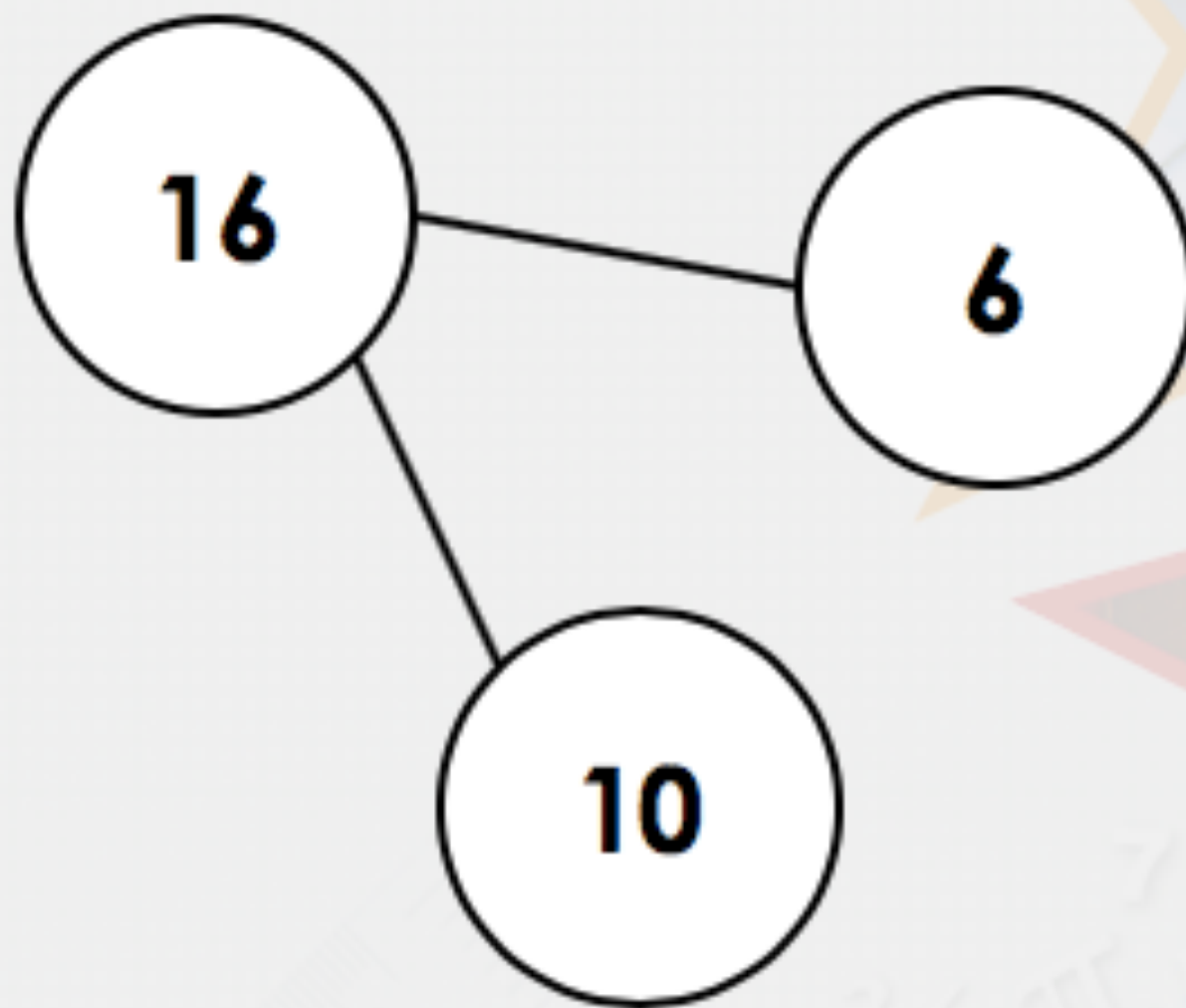
**If  $18 + 2 = 20$ , then  $20 + 2 = 18$ .**



# Learning Partners

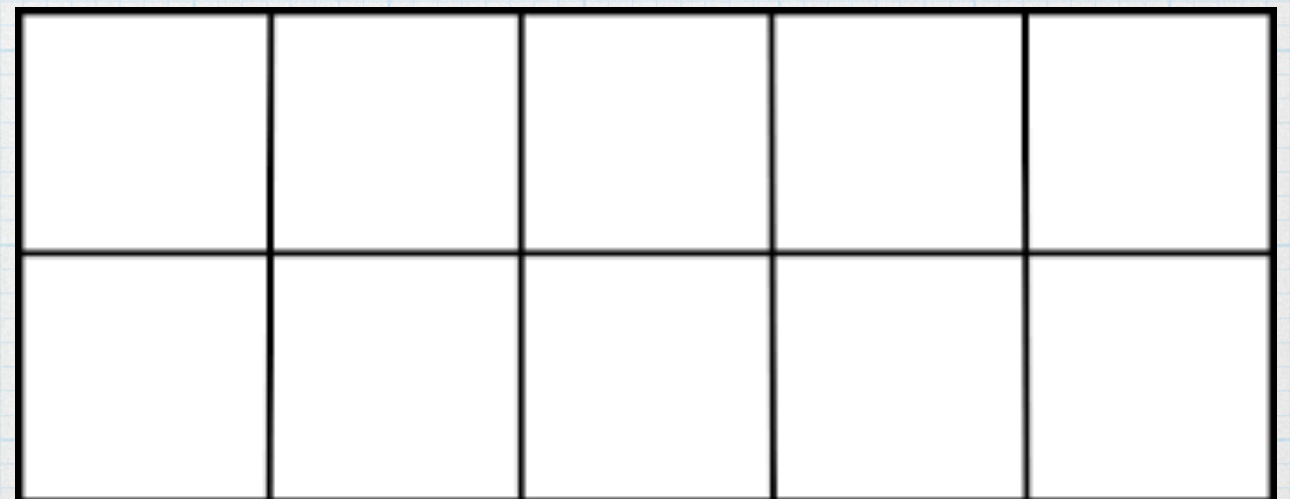
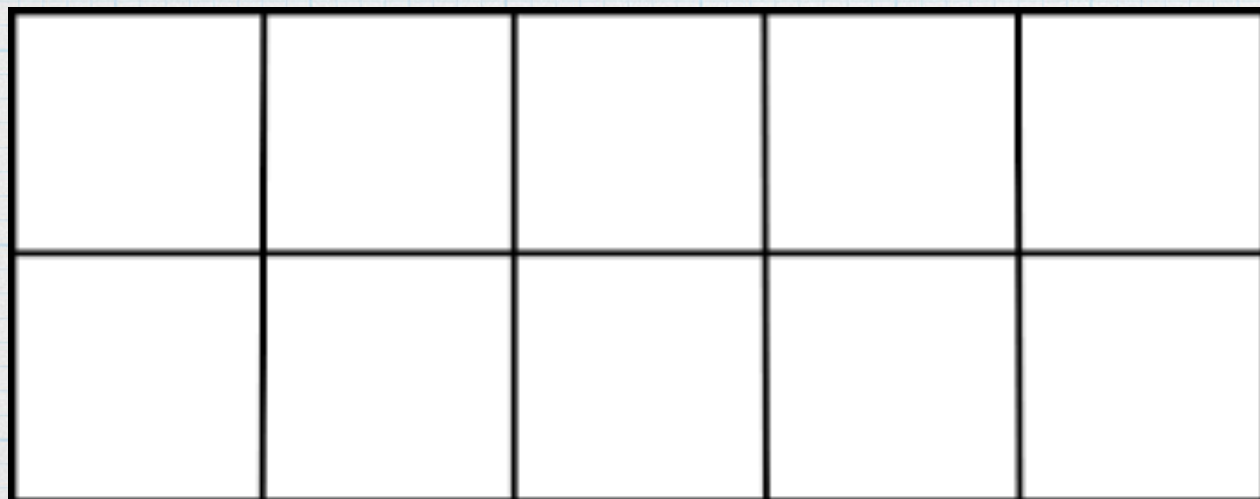
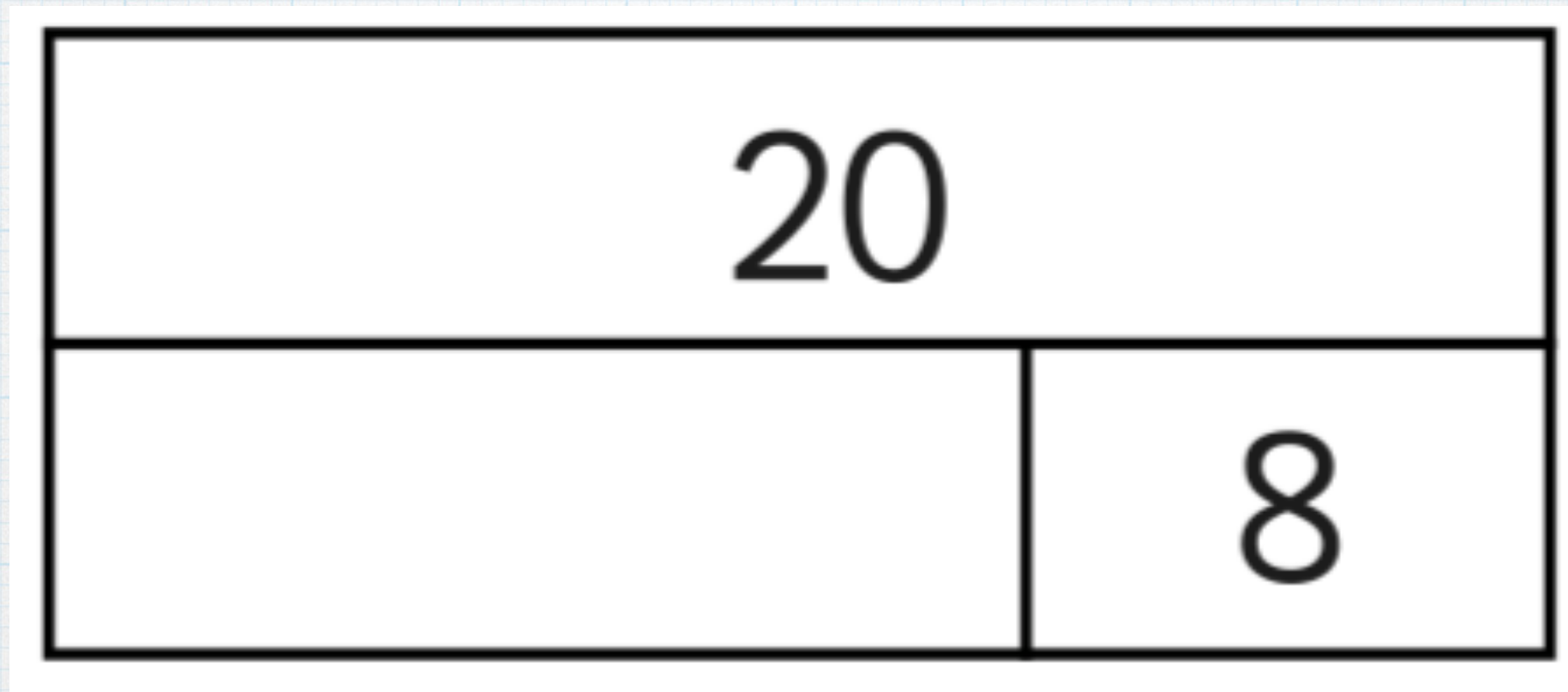
## Varied Fluency 4

Write four number sentences to describe the fact family shown in the part whole model.



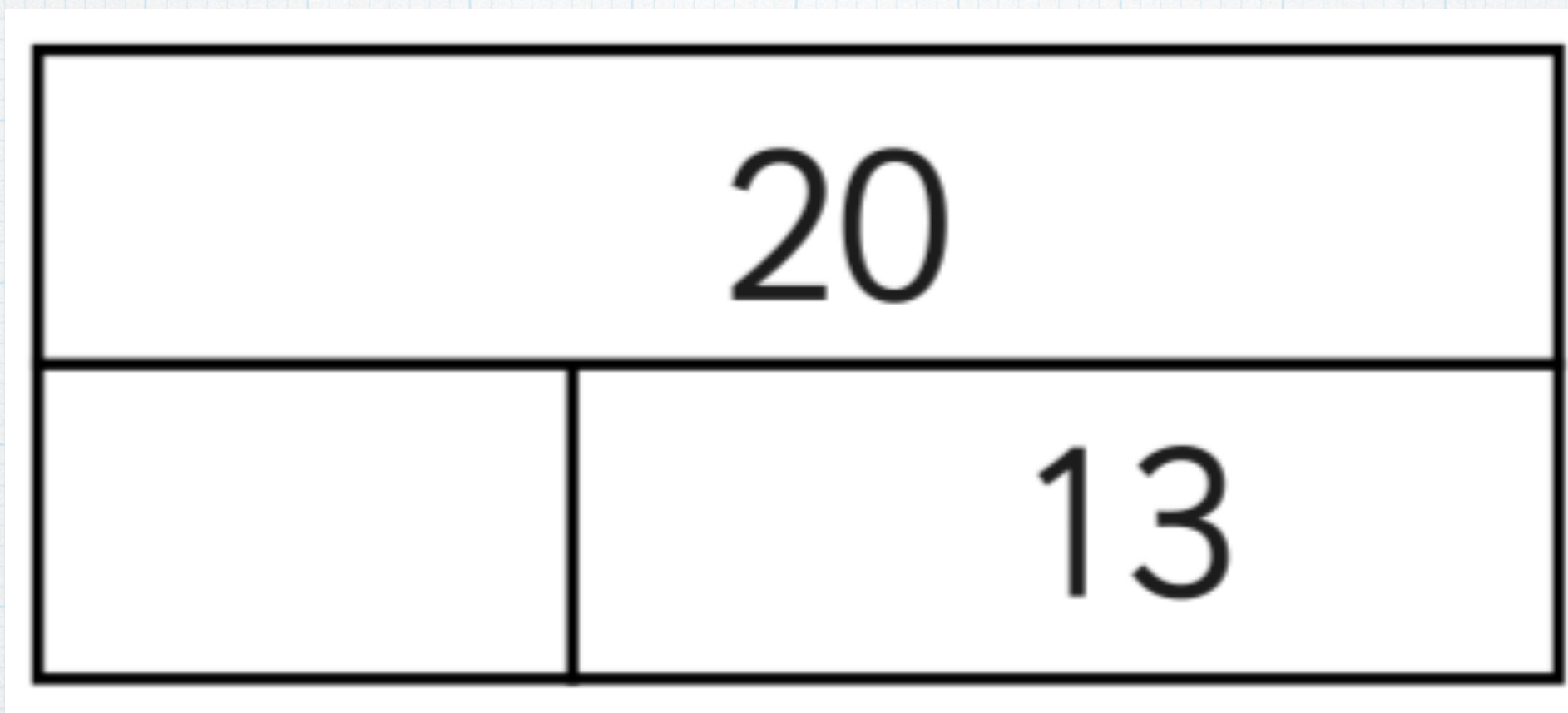


**How can we use the tens frame to complete the bar model?**





**Use your tens frame to complete the bar model.  
Write the fact families that go with the bar model.**







# Skill - I can work out fact families using addition and subtraction up to 20.

- \* Fact Families
- \* Compare number sentences
- \* Check calculations
- \* Related facts



# Rapid Recall

[https://www.mathplayground.com/number\\_bonds\\_20.html](https://www.mathplayground.com/number_bonds_20.html)



# Today's Question

I am thinking of a number.

If you double it.....

Then add 2.....

and subtract 5.....

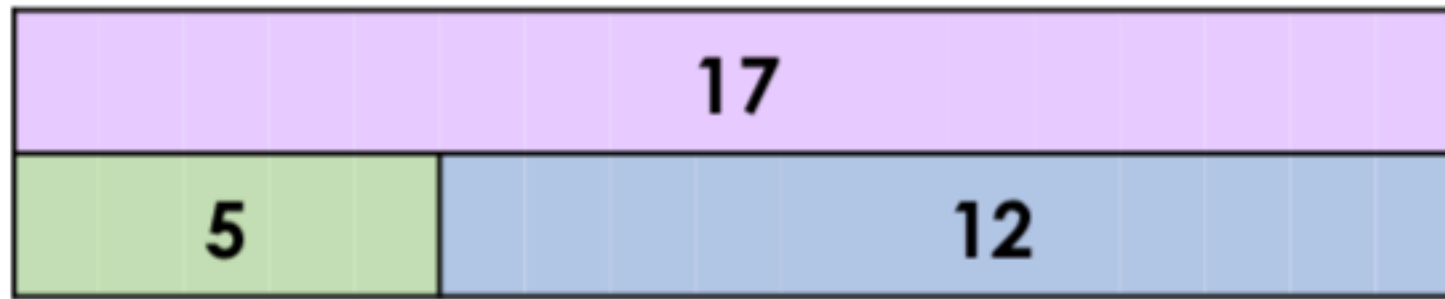
You get 17!

What number am I think of???



# Learning Partners

5. Use the bar model to complete the number sentences below.



$$\boxed{12} + \boxed{\phantom{00}} = \boxed{17}$$

$$\boxed{5} + \boxed{\phantom{00}} = \boxed{17}$$

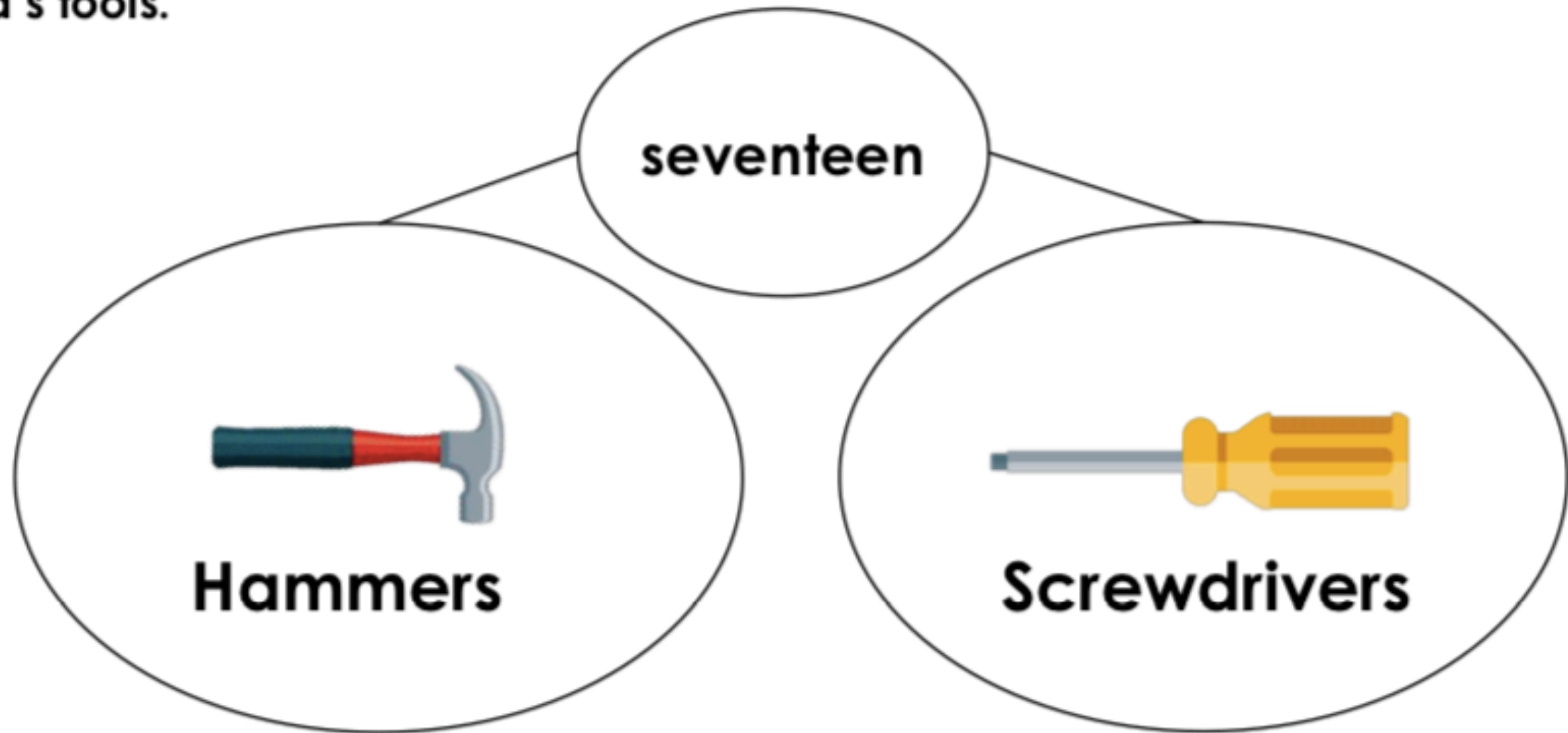
$$\boxed{\phantom{00}} - \boxed{5} = \boxed{\phantom{00}}$$

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





7. Sacha has 17 tools. Using +, – and = write the 4 number sentences that could show Sacha's tools.



**How many fact families can you find in 10 minutes?**



# Skill - I can compare number sentences

- \* Fact Families
- \* Compare number sentences
- \* Check calculations
- \* Related facts



# Rapid Recall

<https://www.topmarks.co.uk/number-facts/number-fact-families>

Fact families up to 10 or 20



# Big Question.....

Teddy is checking Dora's work but doesn't do an inverse calculation.



These calculations  
can't be right.

$$24 + 6 = 84$$

$$25 - 23 = 12$$

$$18 - 3 = 21$$

How might he know?

What errors have been made in each calculation?



# Learning Partners

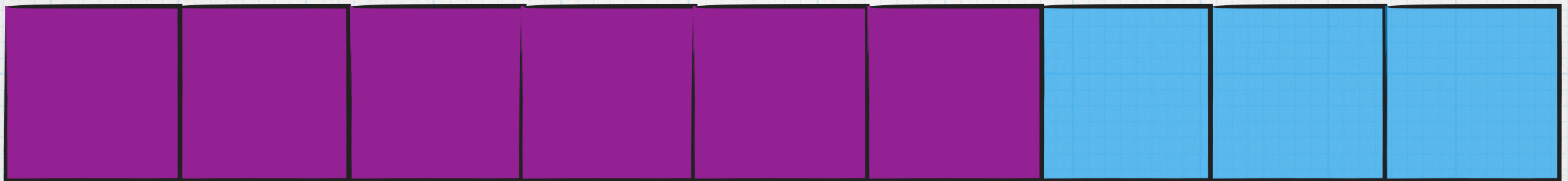
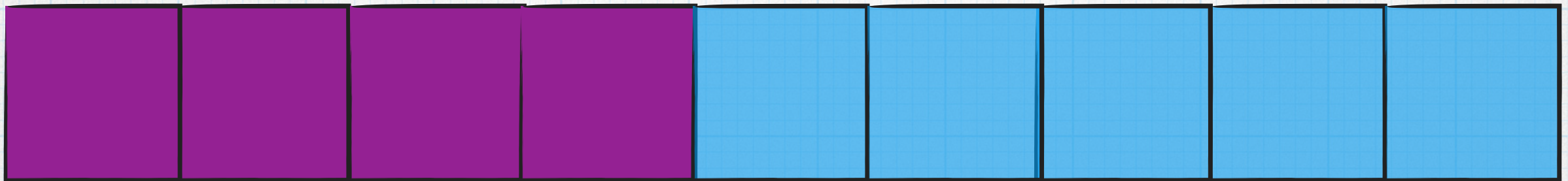
How can we use the following representation to prove that  $5 + 3 = 4 + 4$ ?





Draw bar models to prove:

$4 + 5 = 6 + 3$





# Skill - I can use related facts

- \* Fact Families
- \* Compare number sentences
- \* Check calculations
- \* Related facts



# Rapid Recall

[https://www.topmarks.co.uk/  
maths-games/daily10](https://www.topmarks.co.uk/maths-games/daily10)

The screenshot shows the 'Daily 10' Mental Maths Challenge interface. At the top, there is a navigation bar with three dropdown menus: 'Level 1', 'Addition', and 'Missing Numbers: Up to 20'. The main title 'Daily 10' is displayed in a large, stylized font, with 'Mental Maths Challenge' written below it. A central text box contains the following instructions: 'You will be asked 10 questions.', 'Write down each of your answers.', and 'Check your answers at the end.' Below this, it says 'Choose your question interval to start:'. At the bottom, there is a row of buttons for selecting the question interval: '3 secs', '5 secs', '7 secs', '10 secs', '15 secs', '20 secs', and 'Manual'. The Topmarks logo is visible in the bottom right corner.

Level 1 ▾ Addition ▾ Missing Numbers: Up to 20 ▾

## Daily 10

Mental Maths Challenge

You will be asked 10 questions.  
Write down each of your answers.  
Check your answers at the end.

Choose your question interval to start:

3 secs 5 secs 7 secs 10 secs 15 secs 20 secs Manual

Topmarks



# Big Question.....

Both missing numbers are less than 10

$$7 + \square < 7 + \square$$

How many different possible answers  
can you find?



Use base 10 to show me what is  
similar and different about these

SUMS:

$$4 + 5 = 9$$

$$40 + 50 = 90$$



Use base 10 to show me what is  
similar and different about these

SUMS:

$$3 + 4 = 7$$

$$30 + 40 = 70$$



Use base 10 to complete these sums:

$$5 + 3 =$$

$$50 + 30 =$$

What is different? What is the same?



Complete these sums:

$$6 + 1 =$$

$$60 + 10 =$$

Show your answer using base 10  
and part whole models



Complete this sum:

$$4 = 10 - 6$$

$$40 = \underline{\quad} - 60$$

Show your answer using base 10  
and part whole models



# Learning partners

I have 3 blue pens and 4 black pens. Altogether I have 7 pens.  
Tommy has 30 blue pens and 40 black pens. How many pens does he have in total?



Use concrete apparatus to show your thinking.





# Skill - I know bonds to 100 (tens)

- \* Fact Families
- \* Compare number sentences
- \* Check calculations
- \* Related facts



# Rapid Recall

Label a metre stick from 0 - 100.

Practise counting on and back in 10s. Add and remove labels as necessary.



# Big question....

Alex says,



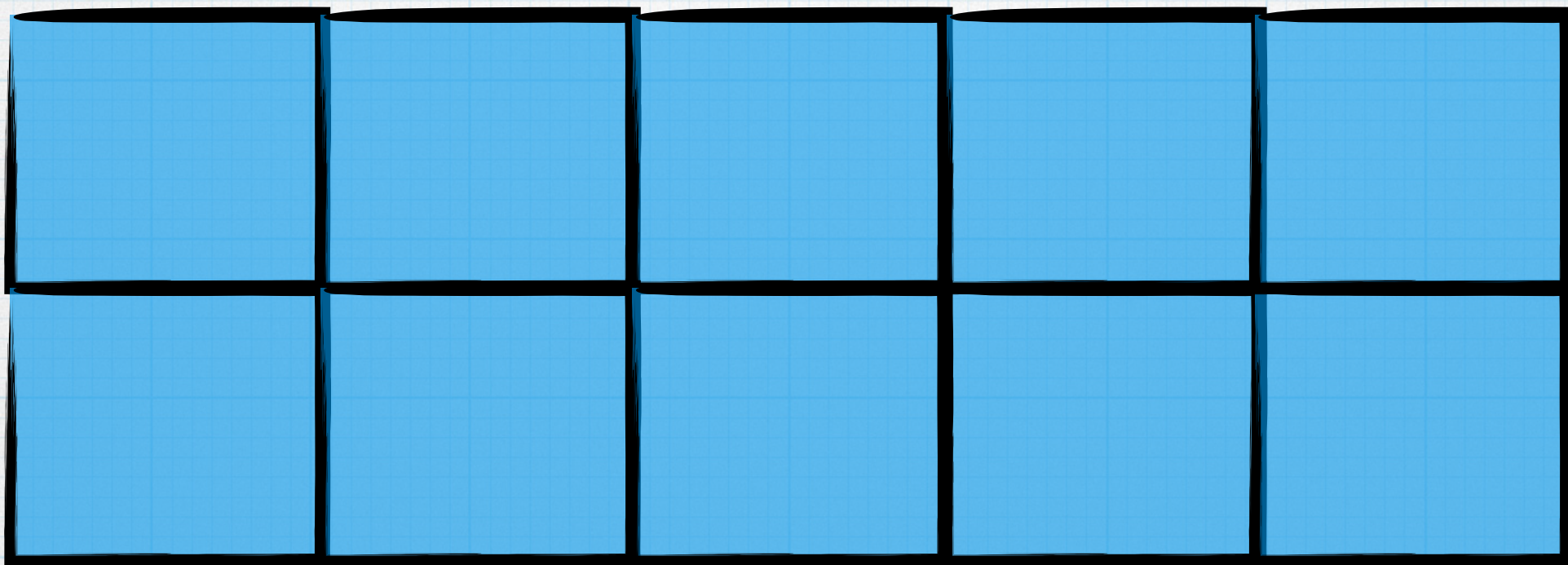
If I know  $9 + 1 = 10$ , I  
can work out  $90 +$   
\_\_\_\_  $= 100$

Find the missing number and explain  
how Alex knows.



Can we use a 10 frame to represent 100?

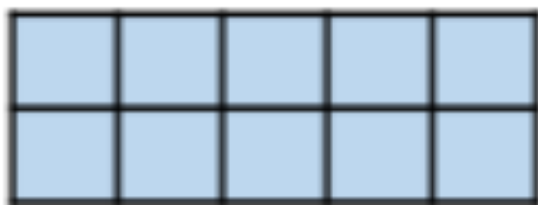
Explain your answer.



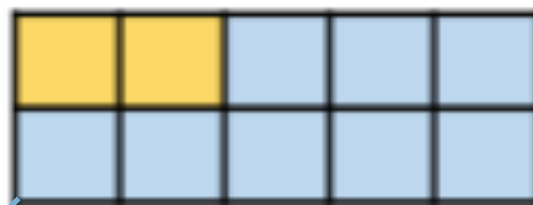


# Learning partners

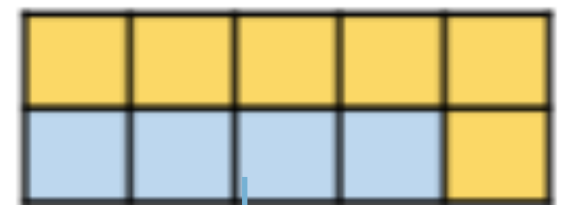
Match the 10 frames to the sentences below:



One hundred  
equals eighty  
plus twenty



$$100 = 100 + 0$$



$$40 + 60 = 100$$

Could we have used our number bonds to 10 to help?  
How?



Complete these sums:

$$2 + 3 + 1 =$$

$$20 + 30 + 10 =$$

What is the same? What is different?



# Skill - I can use bonds to 100 (tens)

- \* Fact Families
- \* Compare number sentences
- \* Check calculations
- \* Related facts



# Rapid Recall

<https://www.ictgames.com/mobilePage/hundredHunt/>



# Big Question

If I count in 3's I will land on 19.

True or False?

Explain your answer.



# Learning Partners

100

100



# Learning Partners

100	

100	



**Use any extra time for problem solving/reasoning activities.**