

Subtract Two 2-Digit Numbers, Crossing 10

Adult Guidance with Question Prompts



Children subtract two 2-digit numbers crossing ten, using number facts, part-whole models and blank number lines. In this activity, children build fluency subtracting two 2-digit numbers, crossing ten. They split the ones into two parts. The first part takes them back to the nearest multiple of ten, they then subtract the remaining part. Children learn that they can subtract the ones or the tens first. Children may also benefit from using equipment, representing tens and ones to support their learning.

What is the first calculation telling us to do? Where will Jake begin? Find this on the number line.

What is the closest multiple of ten for Jake to jump back to?

How many jumps back will Jake need to take to get there? Where would this information go on the part-whole model? What is the other part? How do you know? Count back this number of jumps.

Have we finished the calculation? What can you tell me about the tens? What helps you to subtract tens?

Read the next calculation.

Which number will Jake start on? Find this on the number line. What can you tell me about the tens that Jake needs to subtract?

What can you do to work this out?

Record this on the number line. What is the closest multiple of ten that Jake could jump back to now? How many jumps back will Jake need to take to get there?

Where would this information go on the part-whole model? What is the other part? How do you know? Now we can complete the calculation. Let's read it together.

Do you prefer to subtract the ones first or the tens first? Can you explain why? Can you show Jake how to solve the next calculations?

Subtract Two 2-Digit Numbers, Crossing 10



Jill is teaching Jake how to subtract 2-digit numbers crossing ten.



Count back to the nearest ten, then subtract the remaining ones.

Let's practise subtracting the ones first.

$$43 - 14 = \square$$

Now, try subtracting the tens first.

$$61 - 25 = \square$$

Will you choose to subtract the ones or the tens first?

$$34 - 16 = \square$$

$$74 - 37 = \square$$

Subtract Two 2-Digit Numbers, Crossing 10

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Children subtract two 2-digit numbers crossing ten, using number facts, part-whole models and blank number lines. They apply their reasoning skills to check and correct calculations. Children describe errors and explain solutions.

Jill thinks Jake has one correct answer. Do you agree? Can you prove it?

What can you tell me about this calculation?

Can you explain what Jake did? Can you spot any errors?

What can Jake do to correct it? What does Jake need to remember?

Repeat for each calculation.

Can you make a 'check it' challenge for a friend? Make a calculation and solve it on a blank number line. Include one error.

Can your friend spot it and correct it? Use some of the points that Jake needs to practise for ideas.

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Jill is teaching Jake how to subtract 2-digit numbers crossing ten.



Can you check my work?

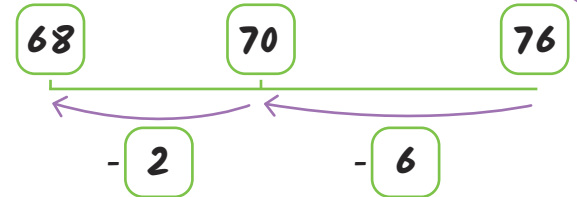
One is correct.



Do you agree with Jill? Can you spot and correct the mistakes?

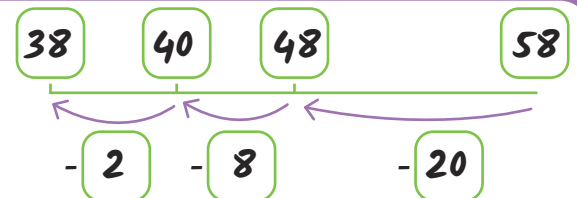
$$76 - 48 = 68$$

6 2



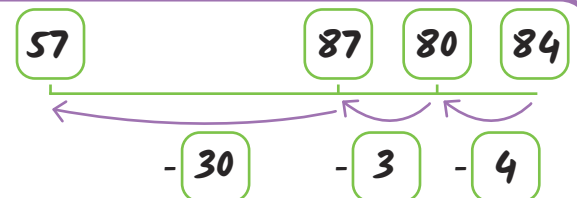
$$58 - 29 = 38$$

8 2



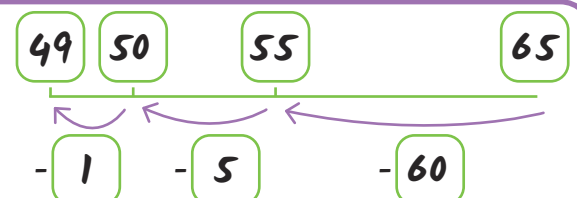
$$84 - 37 = 57$$

4 3



$$65 - 56 = 49$$

5 1



Subtract Two 2-Digit Numbers, Crossing 10

Adult Guidance with Question Prompts



Children subtract two 2-digit numbers crossing ten, using number facts, part-whole models and blank number lines. They apply their problem-solving skills to find and continue a pattern to discover the 1-digit number that it leads to. Children then create their own calculation sequences to reach the same number. They use number facts, part-whole models and blank number lines to find solutions.

What is Jake asking you to find out?

What can you tell me about the calculations? Can you see a pattern in the questions?

What could the next question be?

Can you use the blank number lines to help you find the answers?

What do you notice? What would the next one look like?

What can you tell me about the part whole models?

Can you predict which 1-digit number you would find if you continued the pattern? Can you explain why? What can you do to check?

Were you correct? How do you know?

Make a new pattern subtracting two 2-digit numbers to reach the same 1-digit number. Can you describe your pattern to me?

Subtract Two 2-Digit Numbers, Crossing 10



If you continued this pattern, which 1-digit number would you reach?

$94 - 17 =$



$94 - 27 =$



$94 - 37 =$

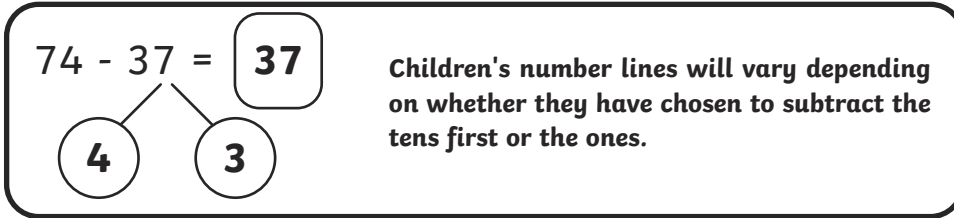
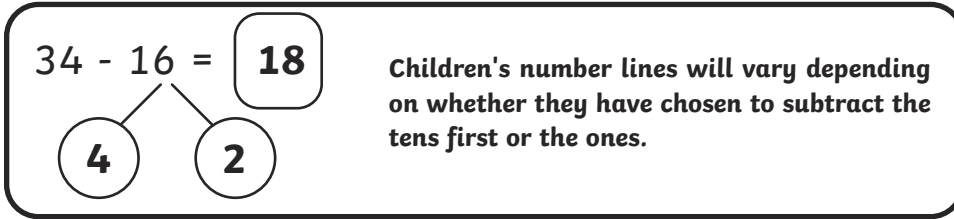
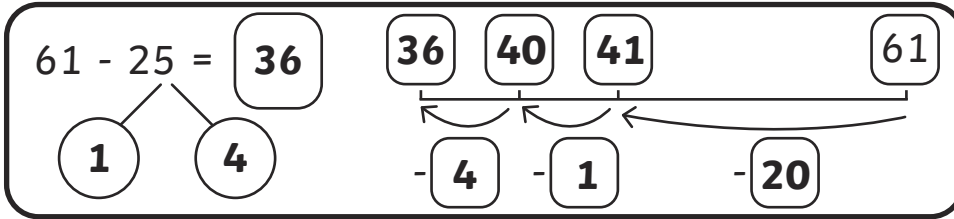
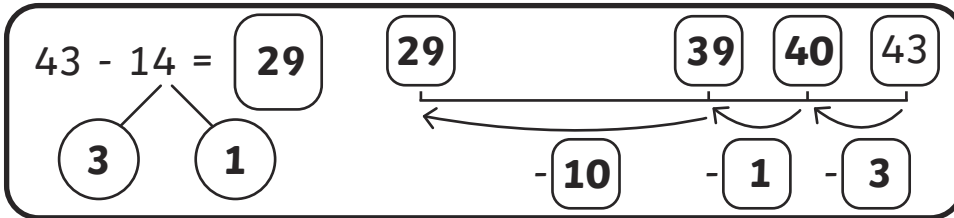


Can you make a different pattern subtracting two 2-digit numbers that will lead to the same number?

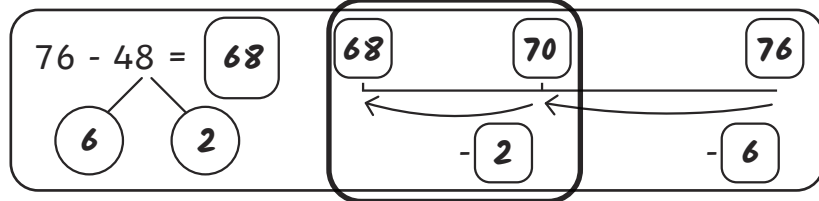


Compare your ideas with your friends.

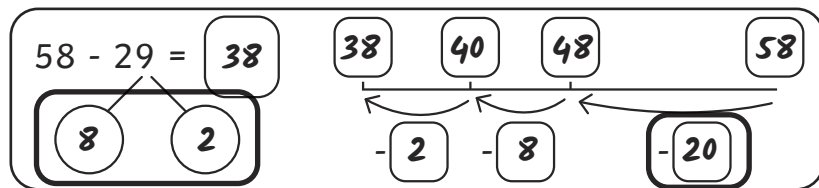
How many different solutions can you find?



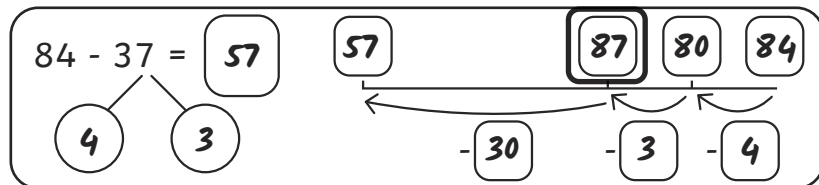
Jake didn't subtract the tens.



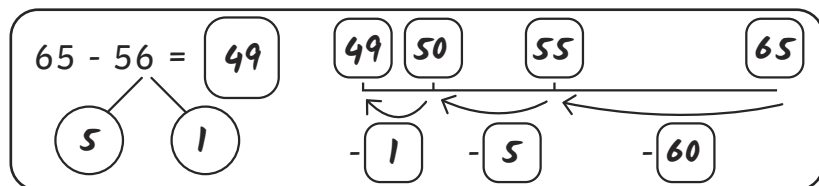
Jake used an incorrect number fact to make nine. He also subtracted 20 incorrectly.



Jake didn't subtract from 80 correctly.



Jake subtracted 60 incorrectly. He should have subtracted 50 to get to 15.





Continuing the pattern would lead to 7.

$$94 - 17 = 77$$

$$94 - 27 = 67$$

$$94 - 37 = 57$$

$$94 - 47 = 47$$

$$94 - 57 = 37$$

$$94 - 67 = 27$$

$$94 - 77 = 17$$

$$94 - 87 = 7$$

Multiple answers possible, some starting points could be:

$$91 - 14$$

$$92 - 15$$

$$93 - 16$$

$$95 - 18$$

$$96 - 19$$

Subtract Two 2-Digit Numbers, Crossing 10

To subtract two 2-digit numbers crossing 10.



Help Jill solve these calculations.

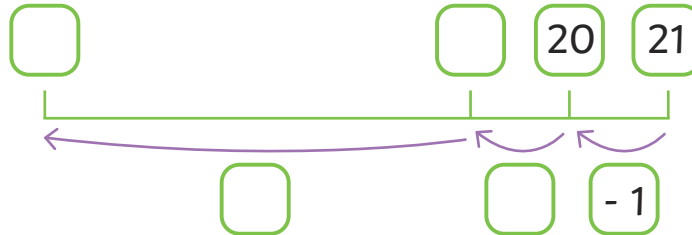
Subtract the ones first.

Jump back to the nearest ten then subtract the rest of the ones.



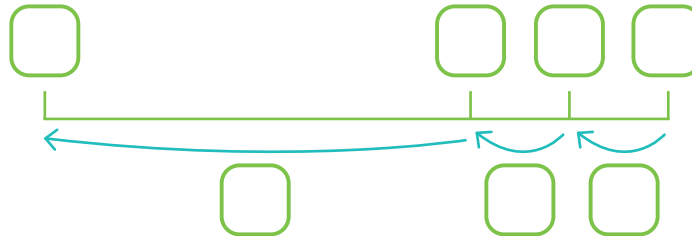
$$21 - 12 = \square$$

1 1

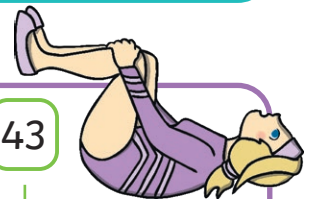


$$32 - 14 = \square$$

○ ○

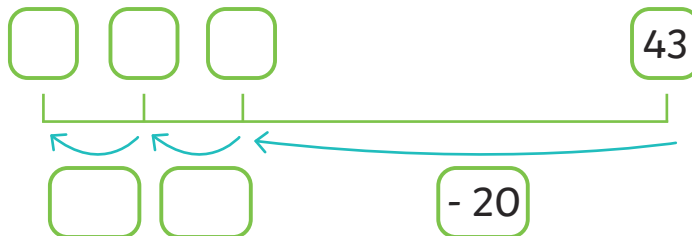


Now, try subtracting the tens first.



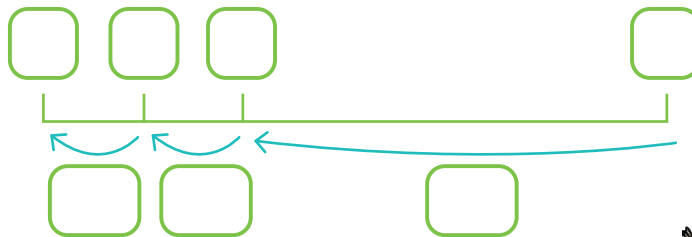
$$43 - 26 = \square$$

○ ○

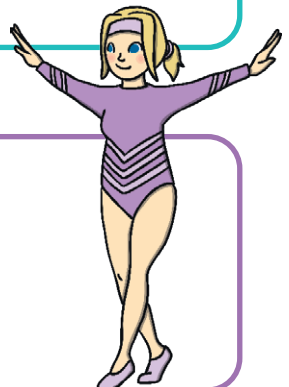


$$51 - 23 = \square$$

○ ○



Will you choose to subtract the tens or the ones first?



$$41 - 25 = \square$$

○ ○

Subtract Two 2-Digit Numbers, Crossing 10 **Answers**

$21 - 12 = 9$
 (1) (1)

9 19 20 21
 ← ← ←
 -10 -1 -1

$32 - 14 = 18$
 (2) (2)

18 28 30 32
 ← ← ←
 -10 -2 -2

$43 - 26 = 17$
 (3) (3)

17 20 23 43
 ← ← ←
 -3 -3 -20

$51 - 23 = 28$
 (1) (2)

28 30 31 51
 ← ← ←
 -2 -1 -20

$41 - 25 = 16$
 (1) (4)

Children's number lines will vary depending on whether they have chosen to subtract the tens first or the ones.

Subtract Two 2-Digit Numbers, Crossing 10

To subtract two 2-digit numbers crossing 10.



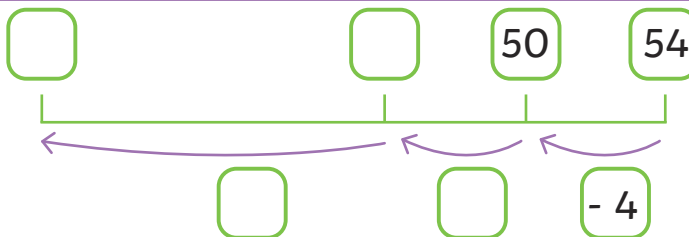
Help Jill solve these calculations.

Subtract the ones first.

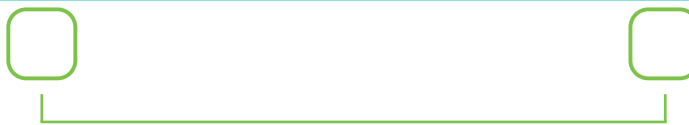
Jump back to the nearest ten then subtract the rest of the ones.



$$54 - 16 = \square$$



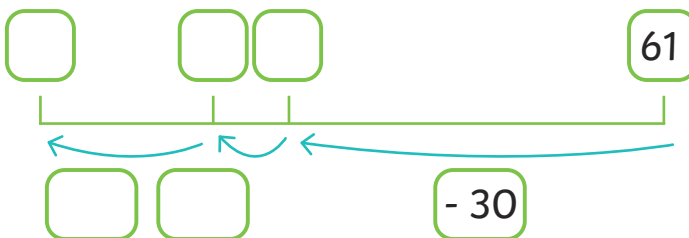
$$72 - 25 = \square$$



Now, try subtracting the tens first.



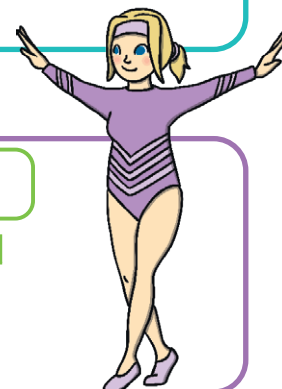
$$61 - 37 = \square$$



$$83 - 28 = \square$$



Will you choose to subtract the tens or the ones first?



$$95 - 39 = \square$$



Subtract Two 2-Digit Numbers, Crossing 10 **Answers**

$54 - 16 = 38$
 (4) (2)

38 48 50 54
 —————
 -10 -2 -4

$72 - 25 = 47$
 (2) (3)

47 67 70 72
 —————
 -20 -3 -2

$61 - 37 = 24$
 (1) (6)

24 30 31 61
 —————
 -6 -1 -30

$83 - 28 = 55$
 (3) (5)

55 60 63 83
 —————
 -5 -3 -20

$95 - 39 = 56$
 (5) (4)

Children's number lines will vary depending on whether they have chosen to subtract the tens first or the ones.

Subtract Two 2-Digit Numbers, Crossing 10

To subtract two 2-digit numbers crossing 10.



Help Jill solve these calculations.

Subtract the ones first.

Jump back to the nearest ten then subtract the rest of the ones.



$$64 - 36 = \square$$

Diagram showing the number 64 with a circle around the 4 and a circle around the 6. Lines connect the 4 to the 6 and the 4 to the 6, forming a diamond shape.

$$72 - 37 = \square$$

Diagram showing the number 72 with a circle around the 2 and a circle around the 7. Lines connect the 2 to the 7 and the 2 to the 7, forming a diamond shape.

Now, try subtracting the tens first.



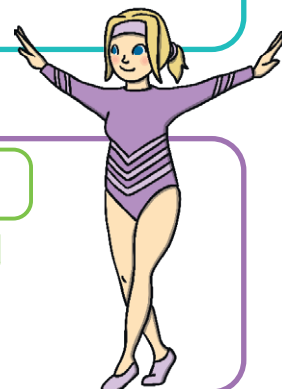
$$95 - 58 = \square$$

Diagram showing the number 95 with a circle around the 5 and a circle around the 9. Lines connect the 5 to the 9 and the 5 to the 9, forming a diamond shape.

$$83 - 49 = \square$$

Diagram showing the number 83 with a circle around the 3 and a circle around the 8. Lines connect the 3 to the 8 and the 3 to the 8, forming a diamond shape.

Will you choose to subtract the tens or the ones first?



$$91 - 65 = \square$$

Diagram showing the number 91 with a circle around the 1 and a circle around the 9. Lines connect the 1 to the 9 and the 1 to the 9, forming a diamond shape.

Subtract Two 2-Digit Numbers, Crossing 10 **Answers**

$64 - 36 = 28$

$72 - 37 = 35$

$95 - 58 = 37$

$83 - 49 = 34$

$95 - 39 = 26$

Children's number lines will vary depending on whether they have chosen to subtract the tens first or the ones.