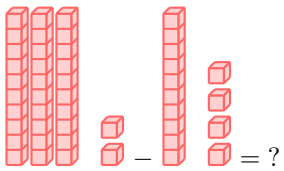
SUBTRACTION WITHIN 100

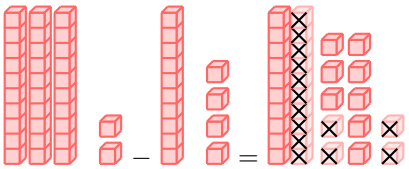
A WHAT IS SUBTRACTION?

Discover: Imagine you have 32 cubes. If you give 14 of them to a friend, how can you figure out how many you have left?



This is called subtraction. Let's explore how it works!

Answer: When we start with 32 and take 14 away, we can see what is left.



We can see that there are 18 cubes left!

$$32 - 14 = 18$$

Counting blocks one by one can take a long time. In this chapter, we will learn some powerful strategies to subtract any two numbers.

Definition **Subtraction**

Subtraction means taking an amount away from a group to find out what is left. This result is called the **difference**.

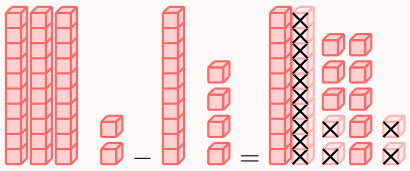
- The **minus sign** $(-)$ tells us to subtract.
- The **equals sign** $(=)$ shows that both sides have the same value.

We can show "thirty-two minus fourteen equals eighteen" in different ways:

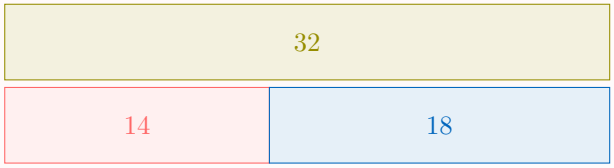
- **With numbers**:

$$32 - 14 = 18$$

- **With cubes**:



- **With part whole model**:

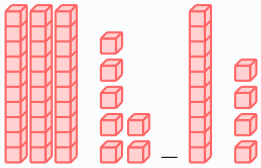


B SUBTRACTING ONES THEN TENS

Method **Subtracting Ones Then Tens Using Cubes**

To calculate:

$$37 - 14$$



- **Step 1: Subtract the ones**

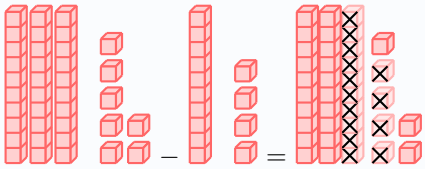
$$7 \text{ ones} - 4 \text{ ones} = 3 \text{ ones}$$

- **Step 2: Subtract the tens**

$$3 \text{ tens} - 1 \text{ ten} = 2 \text{ tens}$$

- **Result**: There are 2 tens and 3 ones. So,

$$37 - 14 = 23$$



Now let's try $32 - 14$. When we look at the ones place, we need to do:

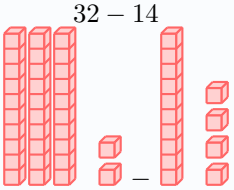
$$2 \text{ ones} - 4 \text{ ones}$$

We don't have enough ones to take 4 away! To solve this, we can **regroup**. We will trade 1 ten for 10 new ones. Now we will have enough. Let's see how it's done!

Method **Subtracting Ones Then Tens with Regrouping**

To calculate:

$$32 - 14$$

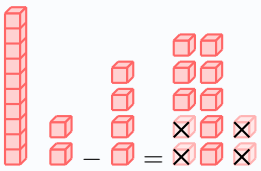


- **Step 1: Subtract the ones with regrouping**

$$2 \text{ ones} - 4 \text{ ones}$$

We don't have enough ones, so we borrow 1 ten from the tens place, turning it into 10 ones. Now we have 12 ones.

$$12 \text{ ones} - 4 \text{ ones} = 8 \text{ ones}$$

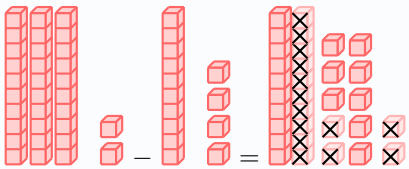


- **Step 2: Subtract the tens**

$$3 \text{ tens of } 32 - 1 \text{ ten of } 14 - 1 \text{ ten of borrowing} = 1 \text{ ten}$$

- **Result**: There is 1 ten and 8 ones. So,

$$32 - 14 = 18$$



C SUBTRACTION IN COLUMNS

Method **Subtraction in Columns**

To calculate:

$$37 - 14$$

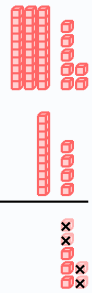
- **Step 1: Set up the subtraction**
  Write the numbers in a vertical column, making sure the digits line up by place value (ones under ones, tens under tens).

Tens	Ones
3	7
− 1	4

- **Step 2: Subtract the ones**

$$7 \text{ ones} - 4 \text{ ones} = 3 \text{ ones}$$

Tens	Ones
3	7
− 1	4
	3



- **Step 3: Subtract the tens**

$$3 \text{ tens} - 1 \text{ ten} = 2 \text{ tens}$$

Tens	Ones
3	7
− 1	4
2	3

- **Result**: There are 2 tens and 3 ones. So,

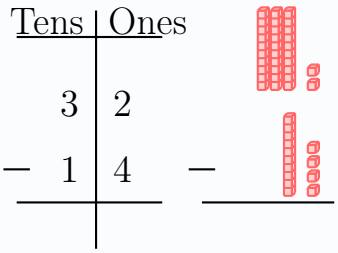
$$37 - 14 = 23$$

Method **Column Subtraction with Regrouping**

To calculate:

$$32 - 14$$

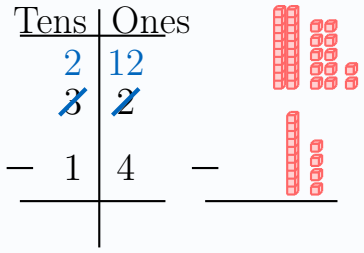
- **Step 1: Set up the subtraction**
  Write the numbers in a vertical column, making sure the digits line up by place value (ones under ones, tens under tens).



- **Step 2: Regroup 1 Ten**

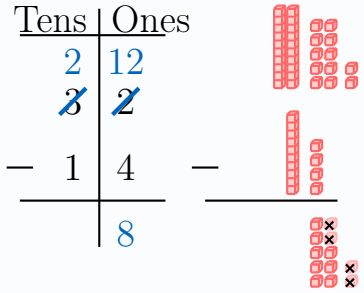
  2 ones − 4 ones

  We don't have enough ones, so we borrow 1 ten from the tens place, turning it into 10 ones. Now we have 12 ones.



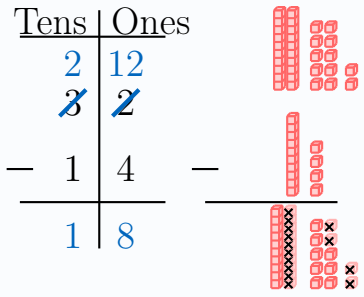
- **Step 3: Subtract the ones**

  12 ones − 4 ones = 8 ones



- **Step 4: Subtract the tens**

  3 tens (from 32) − 1 ten (from 14) − 1 ten (borrowed) = 1 ten



- **Result**: There is 1 ten and 8 ones. So,

  32 − 14 = 18