# ADDITION AND SUBTRACTION

## ARROW ADDITION

## LESSON 2

The Simplified Math Curriculum™

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# TODAY'S OBJECTIVE

Today, we will decompose an addend to add 3-digit numbers.



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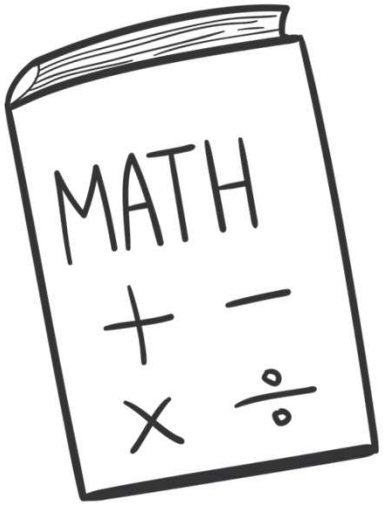
# TAKE OUT YOUR

# MATH JOURNALS



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**Today we are going to add numbers using arrow addition.**

# 252 + 268 = ?



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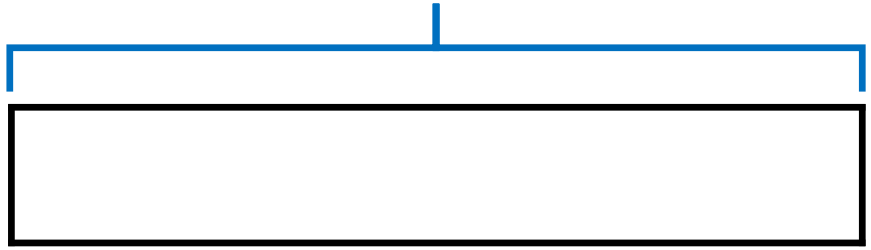
WATCH ME FIRST

# SOLVE: 252 + 268 = ?

**1st: Decompose an addend**



First, I'll decompose one of the addends.



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# Did You Know?

Decomposing means to break numbers down into parts. There are many ways to decompose numbers.

145

| 100 | 20 | 20 | 5 |
|---|---|---|---|

145

| 100 | 10 | 10 | 10 | 10 | 5 |
|---|---|---|---|---|---|

145

| 100 | 40 | 5 |
|---|---|---|



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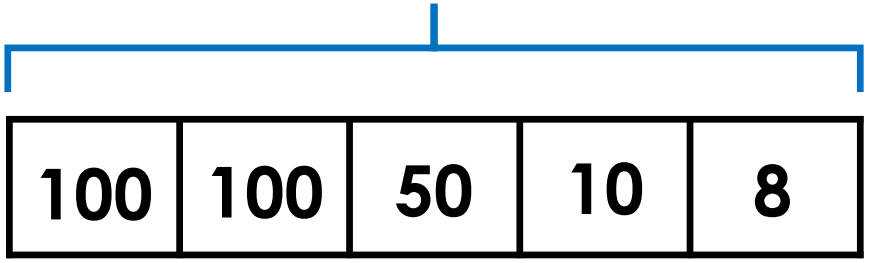
## 1st: Decompose an addend

**252 + 268 = ?**




I decomposed the addend into several "friendly" numbers to make it easier to add on. This is just one way to do it.



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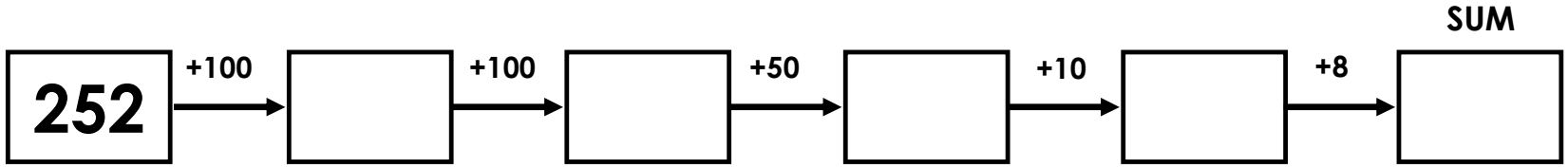
WATCH ME FIRST

**1st: Decompose an addend**

$$252 + 268 = ?$$

| 100 | 100 | 50 | 10 | 8 |
|---|---|---|---|---|

**2nd: Set up the problem**




First, I'll create a box for the starting addend.
Next, I'll draw arrows and boxes for each decomposed part.
Then, I'll draw a box for the sum.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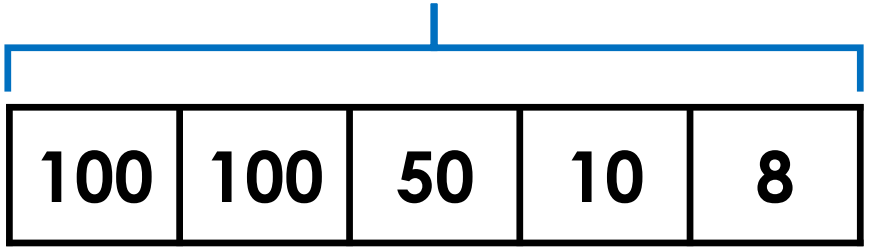
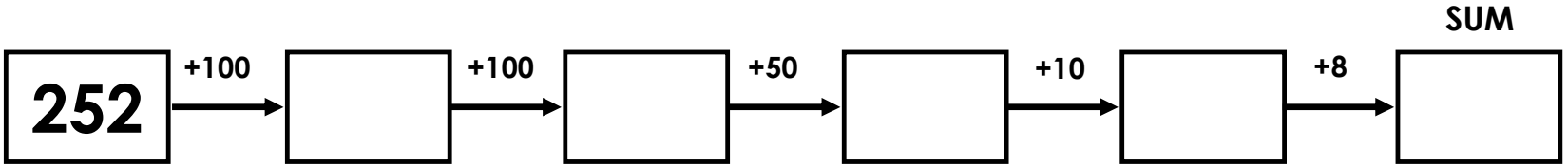
WATCH ME FIRST

**252 + 268 = ?**

**1st: Decompose an addend**




**2nd: Set up the problem**




**3rd: Add each decomposed part to find the sum**

Finally, I will add on each decomposed part in my arrow model to find the sum.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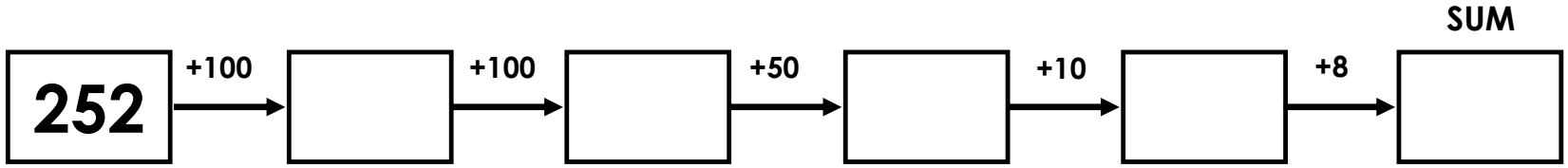
WATCH ME FIRST

# 252 + 268 = ?

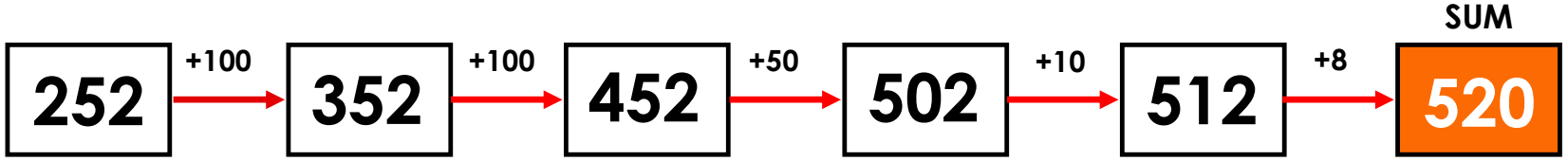
## 1st: Decompose an addend

| 100 | 100 | 50 | 10 | 8 |
|---|---|---|---|---|

## 2nd: Set up the problem




## 3rd: Add each decomposed part to find the sum



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# LET'S WORK TOGETHER



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## Problem #1
LET'S WORK TOGETHER

**Let's solve together using arrow addition.**

# 377 + 225 = ?

Do you remember what we do in Step 1?
We need to decompose an addend. Let's see what I did already.


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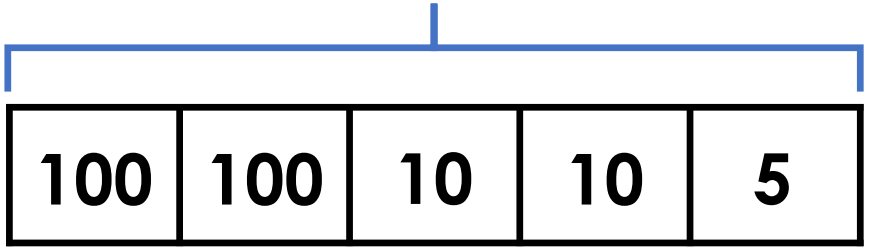
## Problem #1
LET'S WORK TOGETHER

# 377 + 225 = ?

## 1st: Decompose an addend




## 2nd: Set up the problem

What do we do next?

We need to set up the problem by:

- Creating a box for the starting addend
- Drawing arrows and boxes
- Drawing a box for the sum

This is how I decomposed 225. Remember, there are many ways to decompose numbers.



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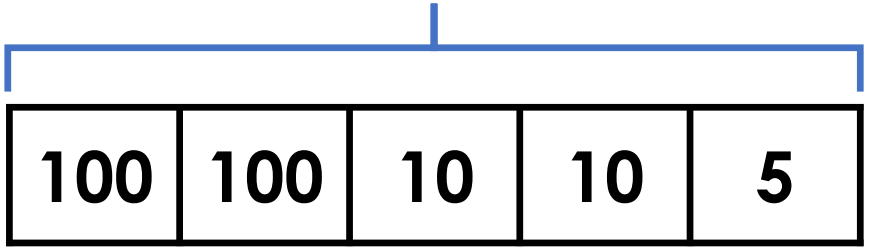
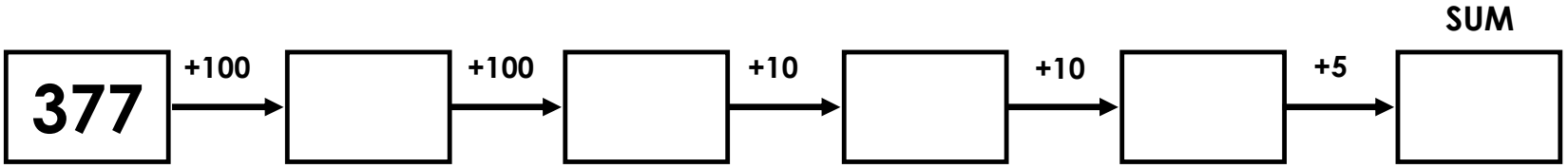
## Problem #1
LET'S WORK TOGETHER

$$377 + 225 = ?$$

**1st: Decompose an addend**




## 2nd: Set up the problem




## 3rd: Add each decomposed part to find the sum

What happens in the last step?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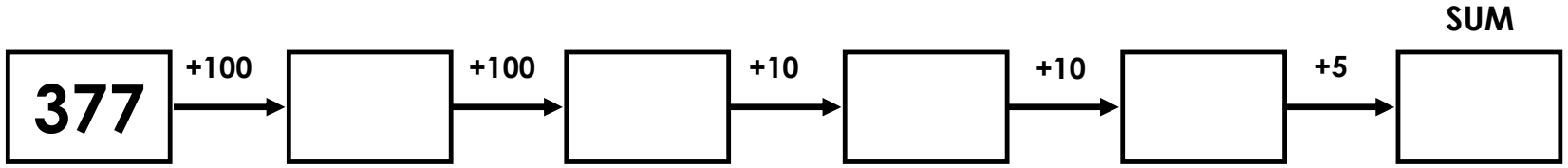
## Problem #1
LET'S WORK TOGETHER

# 377 + 225 = ?

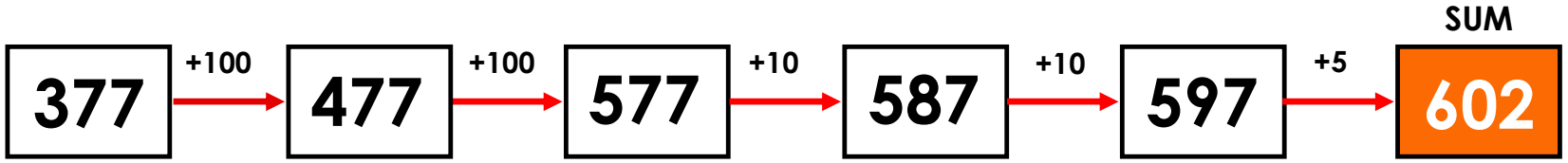
**1st: Decompose an addend**

| 100 | 100 | 10 | 10 | 5 |
|---|---|---|---|---|

## 2nd: Set up the problem




## 3rd: Add each decomposed part to find the sum



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# CHECK - IN

- ❑ What did you notice?
- ❑ Can you make a connection to anything else you already know? How?
- ❑ Do you have any questions?



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# IT'S YOUR TURN



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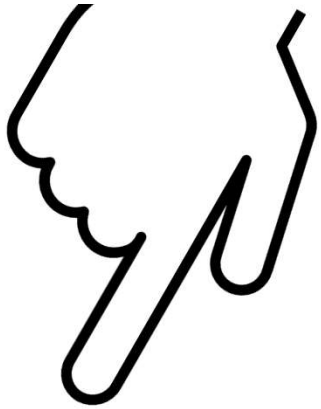

# Now it's "YOUR TURN" to Solve

**Don't forget to explain your thinking!**



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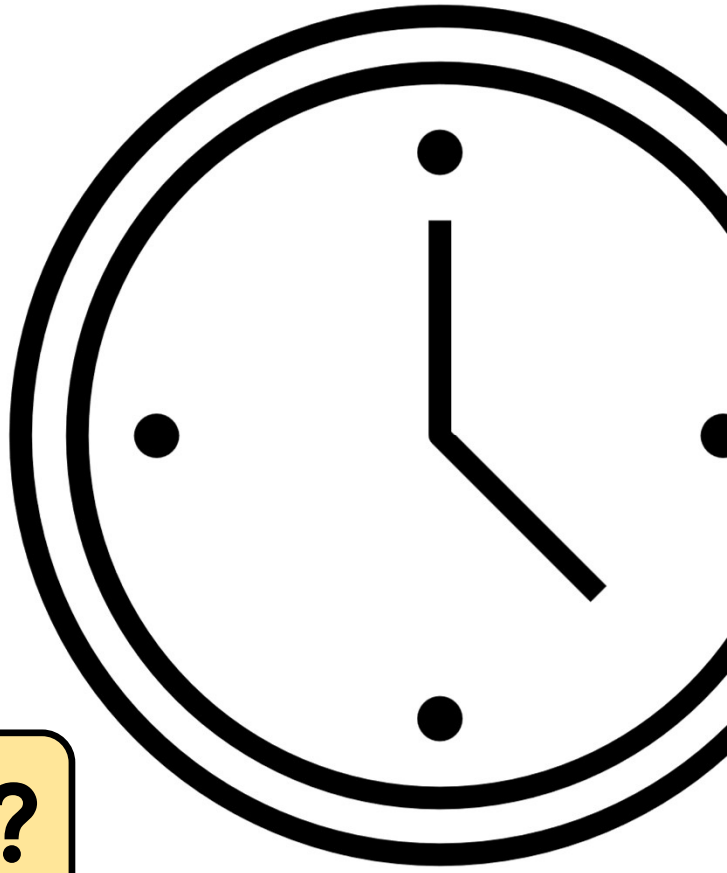
# Time to Discuss and Check Your Answers



How did you solve?



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## Problem #1
YOUR TURN

Use the arrow addition method to solve the equation.

# 244 + 241 = ?



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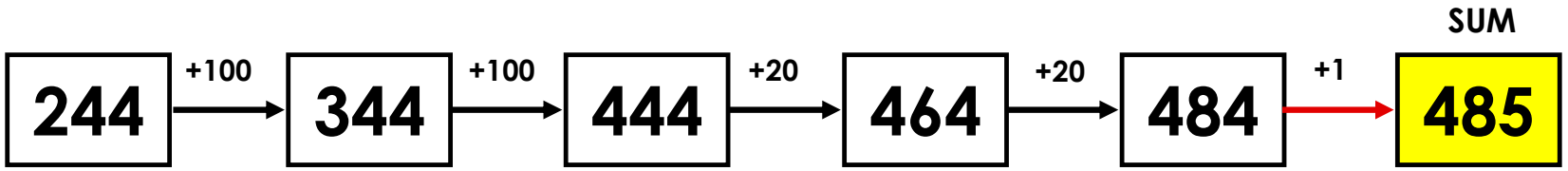
## Problem #1
YOUR TURN

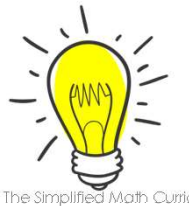
**USE THE ARROW METHOD TO SOLVE. STRATEGY WILL VARY.**

There are many ways to decompose numbers and solve this problem. This is just one way.

**244 + 241 = ?**

| 100 | 100 | 20 | 20 | 1 |
|---|---|---|---|---|



Did you solve the same way?

If you solved another way, what did you do?

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## Problem #2
YOUR TURN

Use the arrow addition method to solve the equation.

# 435 + 226 = ?



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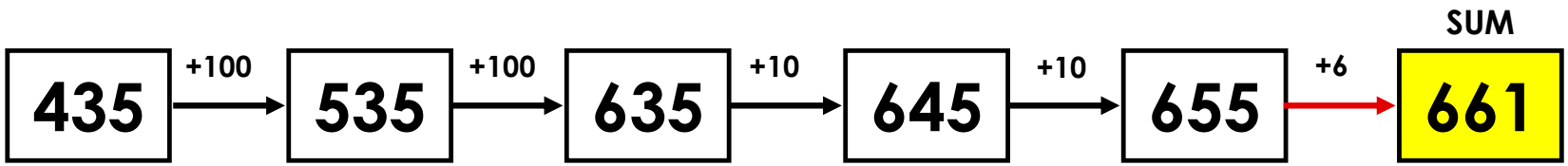
## Problem #2
YOUR TURN

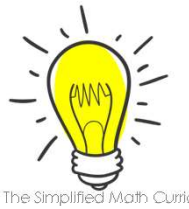
**USE THE ARROW METHOD TO SOLVE. STRATEGY WILL VARY.**

There are many ways to decompose numbers and solve this problem. This is just one way.

**435 + 226 = ?**

| 100 | 100 | 10 | 10 | 6 |
|---|---|---|---|---|



Did you solve the same way?

If you solved another way, what did you do?

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## Problem #3
YOUR TURN

Use the arrow addition method to solve the equation.

# 299 + 148 = ?



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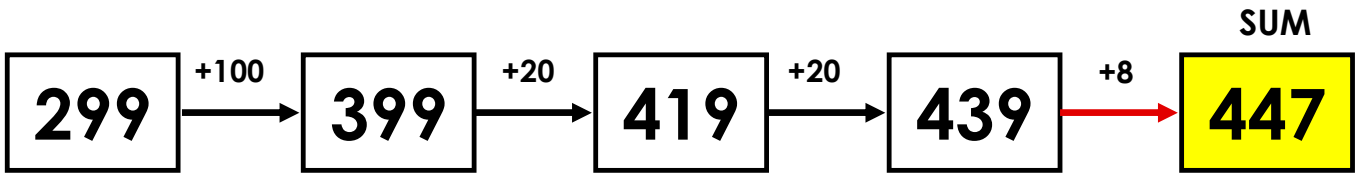
## Problem #3
YOUR TURN

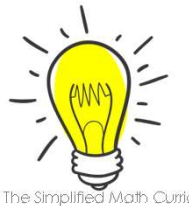
**USE THE ARROW METHOD TO SOLVE. STRATEGY WILL VARY.**

There are many ways to decompose numbers and solve this problem. This is just one way.

**299 + 148 = ?**

| 100 | 20 | 20 | 8 |
|---|---|---|---|



Did you solve the same way?

If you solved another way, what did you do?

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## Problem #4
YOUR TURN

Use the arrow addition method to solve the equation.

# 414 + 406 = ?



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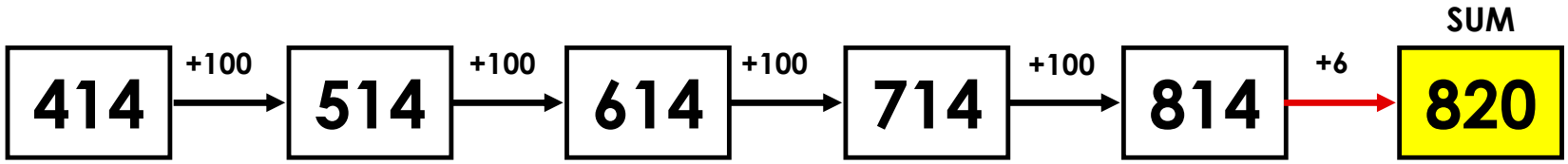
## Problem #4
YOUR TURN

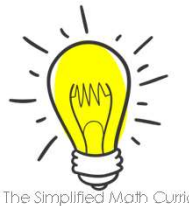
**USE THE ARROW METHOD TO SOLVE. STRATEGY WILL VARY.**

There are many ways to decompose numbers and solve this problem. This is just one way.

**414 + 406 = ?**

| 100 | 100 | 100 | 100 | 6 |
|---|---|---|---|---|



Did you solve the same way?

If you solved another way, what did you do?

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## Problem #5
YOUR TURN

Max believes the sum is 515. Do you agree or disagree?
Use arrow addition method to solve the equation.

# 356 + 249 = ?



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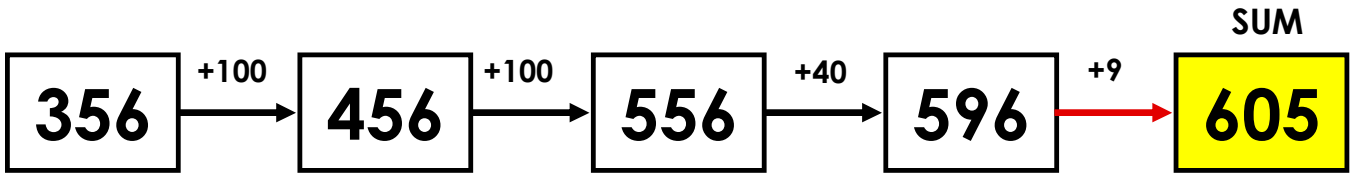
## Problem #5
YOUR TURN

**USE THE ARROW METHOD TO SOLVE. STRATEGY WILL VARY.**

There are many ways to decompose numbers and solve this problem. This is just one way.

**356 + 249 = ?**

| 100 | 100 | 40 | 9 |
|---|---|---|---|




**I disagree, the sum is 605.**

Did you solve the same way?

If you solved another way, what did you do?

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## Problem #6
YOUR TURN

Alicia says the sum is 810. Do you agree or disagree?
Use the arrow addition method to solve the equation.

# 672 + 138 = ?



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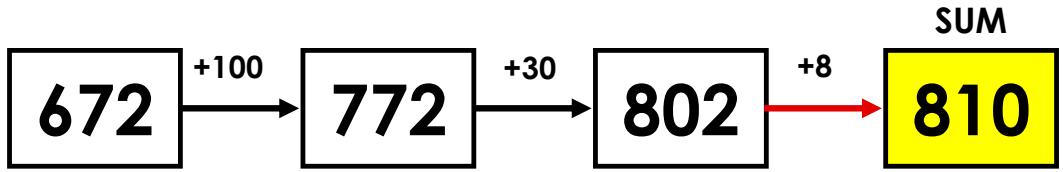
## Problem #6
YOUR TURN

**USE THE ARROW METHOD TO SOLVE. STRATEGY WILL VARY.**

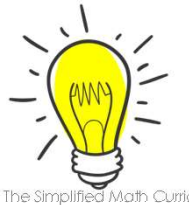
There are many ways to decompose numbers and solve this problem. This is just one way.

**672 + 138 = ?**

| 100 | 30 | 8 |
|---|---|---|




**I agree, the sum is 810.**



Did you solve the same way?

If you solved another way, what did you do?

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## Let's Reflect

# It's reflection time!

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