



# Another Addition Algorithm

Let’s learn another algorithm to add.

Warm-up

## Notice and Wonder: Another Curious Table

What do you notice? What do you wonder?

+	98	99	100	101	102
98		197		199	
99	197		199		201
100		?		?	
101	199		201		203
102		201		203	

## Activity 1

### A New Addition Algorithm

Here are 2 algorithms for adding  $367 + 231$ .

Han's algorithm

$$\begin{array}{r} 367 \\ + 231 \\ \hline 8 \end{array} \text{ step 1}$$
$$\begin{array}{r} 90 \\ + 500 \\ \hline 598 \end{array} \text{ step 4}$$

Elena's algorithm

$$\begin{array}{r} 367 \\ + 231 \\ \hline 8 \end{array} \text{ step 1}$$

$$\begin{array}{r} 367 \\ + 231 \\ \hline 98 \end{array} \text{ step 2}$$

$$\begin{array}{r} 367 \\ + 231 \\ \hline 598 \end{array} \text{ step 3}$$

Discuss with your partner:

1. How is Elena's algorithm different from Han's algorithm?
2. Why do both algorithms work?

## Activity 2

### Compose New Units

Here are 2 algorithms for adding  $365 + 182$ .

Han's algorithm

$$\begin{array}{r} 365 \\ + 182 \\ \hline 7 \end{array} \text{ step 1}$$
$$\begin{array}{r} 140 \\ + 400 \\ \hline 547 \end{array} \begin{array}{l} \text{step 2} \\ \text{step 3} \\ \text{step 4} \end{array}$$

Elena's algorithm

$$\begin{array}{r} 365 \\ + 182 \\ \hline 7 \end{array} \text{ step 1}$$

$$\begin{array}{r} 100 \\ 365 \\ + 182 \\ \hline 47 \end{array} \text{ step 2}$$

$$\begin{array}{r} 100 \\ 365 \\ + 182 \\ \hline 547 \end{array} \text{ step 3}$$

1. How do the algorithms show the 14 tens differently?

2. Try using Elena's algorithm to find the value of each sum.

a.  $174 + 352$

b.  $273 + 619$

c.  $354 + 198$

d.  $525 + 376$

