

Strategies for Addition

Below is a list of strategies for solving addition problems.

Students are encouraged to use an appropriate and efficient strategy based on the problem.

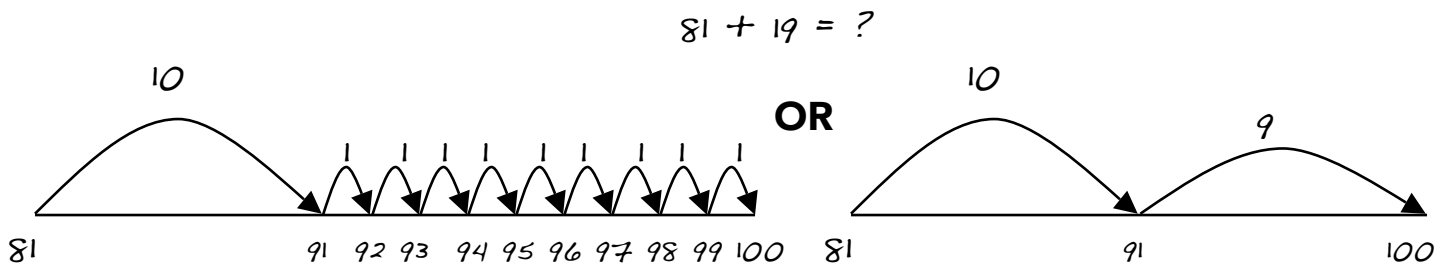
1. **Splitting Both Addends:** In this strategy you split up both addends by their place value, then add together each part at the end.

$$\begin{aligned}81 + 19 &= (80 + 1) + (10 + 9) \\ &= (80 + 10) + (1 + 9) \\ &= (90) + (10) \\ &= 100\end{aligned}$$

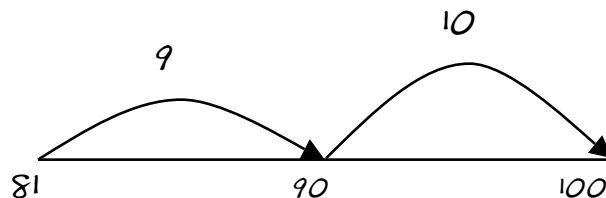
*The traditional algorithm is a *splitting both addends strategy* that starts from the units and proceeds from the right to the left adding the ones, tens, hundreds, etc. We will be exploring this strategy more later in the year and would like students to develop a deep understanding of where it comes from.

2. **Keeping One Addend Whole**

- A. **Adding on a landmark and adjusting:** In this strategy you keep one addend whole and then add on multiples of ten, followed by the ones after.



- B. **Getting to a landmark and adjusting:** In this strategy you keep one addend whole and then first get to a landmark (multiples of ten), then add on multiples of ten, followed by the ones after.



3. **Compensation:** In this strategy you create an equivalent expression that is easier to solve.

$$\begin{aligned}81 + 19 &= 80 + 20 \rightarrow 81 + 19 = (80 + 1) + 19 \\ &= 80 + (1 + 19) \\ &= 80 + 20 \\ &= 100\end{aligned}$$

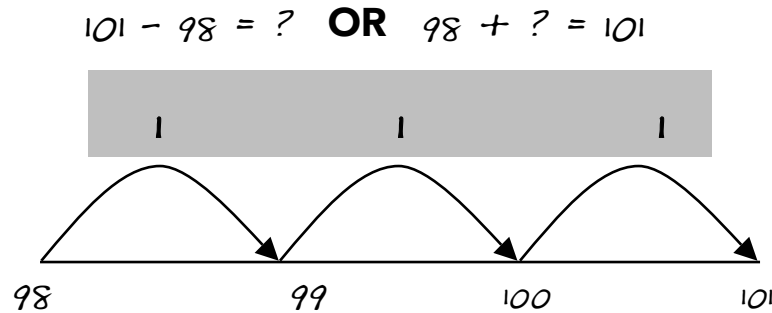
Strategies for Subtraction

Below is a list a strategies for solving subtraction problems.

Students are encouraged to use an appropriate and efficient strategy based on the problem.

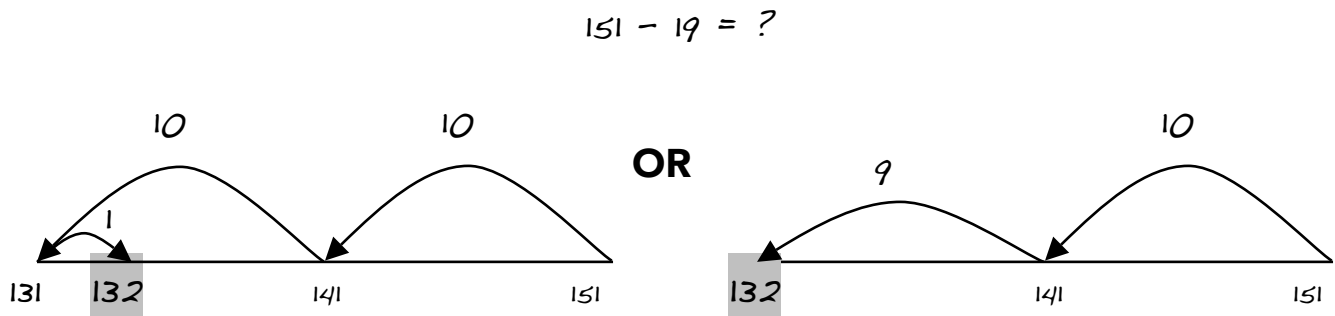
$$\text{Minuend} - \text{Subtrahend} = \text{Difference}$$

- Counting Up:** Here the idea is about difference. Your answer is the difference between two numbers on a number line. This strategy is great with numbers that are close together.

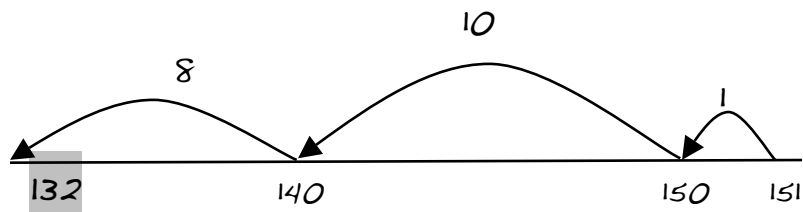


*The answer in counting up is in the distance

- Counting Back:** Here the idea is about removal. This might mean making leaps back that make sense. You might make some leaps back or get to a landmark first, and then adjust.
- A. Subtracting landmarks and adjusting:** In this strategy you keep the minuend whole and then subtract multiples of ten, followed by the ones.



- B. Getting to a landmark and adjusting:** In this strategy you keep the minuend whole and subtract to get to landmarks (multiples of ten). Then, you adjust.



*The answer in counting back is where you land

