

Read About Intro to the Number Line

WHAT IS A NUMBER LINE?

A number line is a line that shows numbers, in order. A number line can start at any number and end at any number. You can use number lines to count, add, and subtract.

To better understand number lines...

LET'S BREAK IT DOWN!

Compare numbers of jelly beans.

You have 12 jelly beans. Your friend has 15 jelly beans. Who has more? You can compare numbers on a number line. Number lines have tick marks to mark numbers. Numbers increase from left to right. 15 is to the right of 12 on a number line. So, 15 is greater.



Add numbers of parrot seeds.

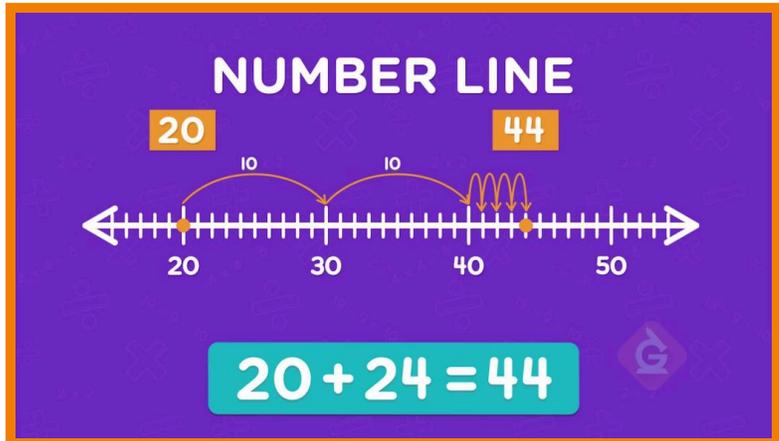
You give your parrot 12 seeds in the morning and 8 seeds in the afternoon. You can use a number line to find the total number of seeds you give your parrot each day: $12 + 8$. First, mark the 12 on the number line. Then jump 8 numbers to the right. This is like counting on 8 numbers.



The last number you land on is 20. So, $12 + 8 = 20$.

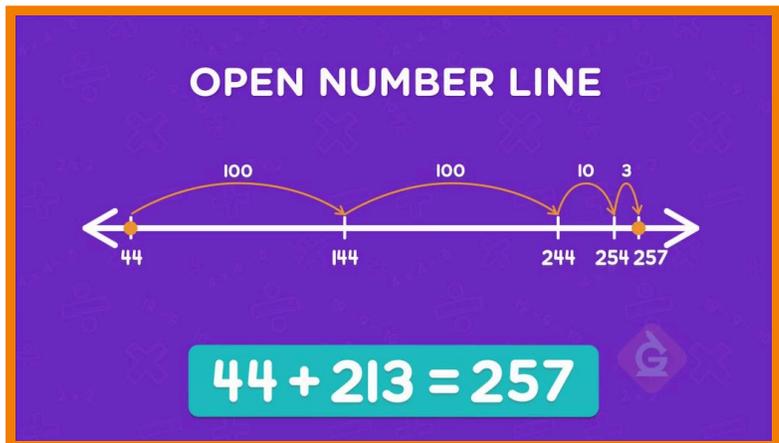
Add 2-digit numbers on a number line.

You can add bigger numbers in parts by skip counting. Find $20 + 24$. Start at 20 on the number line. One way to jump 24 is to jump 10 and 10 and 4. The last number you land on is 44. $20 + 24 = 44$. You could make jumps of any size, as long as you jump 24 in all.



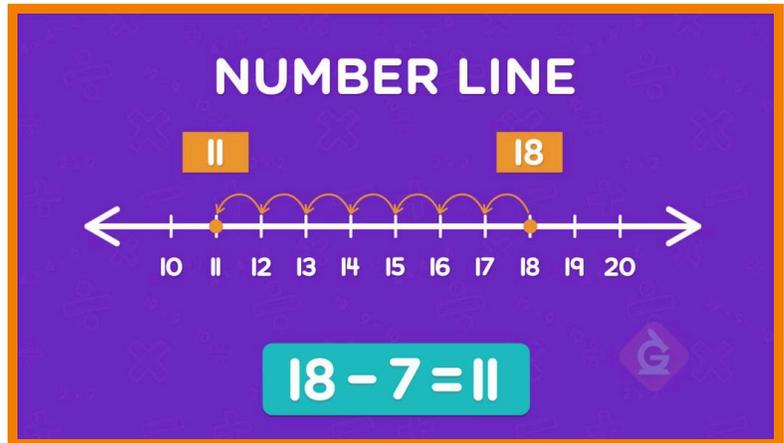
Add 3-digit numbers on a number line.

A shop sells 213 cookies and 44 cakes. How many items do they sell in all? You can start at either number. One way to add is to make a point at 44 and jump 213. To jump 213 you can jump 100, 100, 10, and 3. You land at 144, 244, 254, and finally 257. $213 + 44 = 257$.



Subtract numbers on a number line.

You can also subtract numbers on an open number line. To subtract, you place a point at the greater number. Then you jump back to the left, like counting back. To subtract $71 - 32$, put a point at 71. Then jump back 32. One way is to jump back 1 to 70. Then 1 more to 69. Then you can jump back 10, 10, and 10 (or 30). The last number you land on is 39. $71 - 32 = 39$.



INTRO TO THE NUMBER LINE VOCABULARY

Number line A straight line with numbers placed in increasing order from left to right.

Tick mark A mark on the number line. Each mark represents a number.

Compare To determine which number in a set of numbers is greater or greatest.

Addition To combine groups to find a new total.

Subtraction To take away one number from another.

Open number line A number line with no tick marks or end points.

INTRO TO THE NUMBER LINE DISCUSSION QUESTIONS

Does a number line always start at 0?

No, a number line can start and end at any number.

Explain how to add $8 + 7$ on a number line with equally-spaced tick marks one unit apart.

I start at the number 8 and make 7 single hops or jumps to the right and land on the number 15.

Explain how to subtract $290 - 155$ on an open number line using skip counting by 100s, 10s, and 5s.

I start at 290 and skip count one hop left of 100 units to land on 190, then I make five hops left of 10 units and land on 140, and then I make one hop left of 5 units to land on 135. $290 - 155 = 135$.

What is one difference between a labeled number line with equal spaces one unit apart and an open number line?

The open number line can show different spacing. I can add very large numbers together on an open number line.

What is one possible starting point on an open number line that you can use to add $212 + 57$?

I can start at 212. I can start at 200 or 210.
