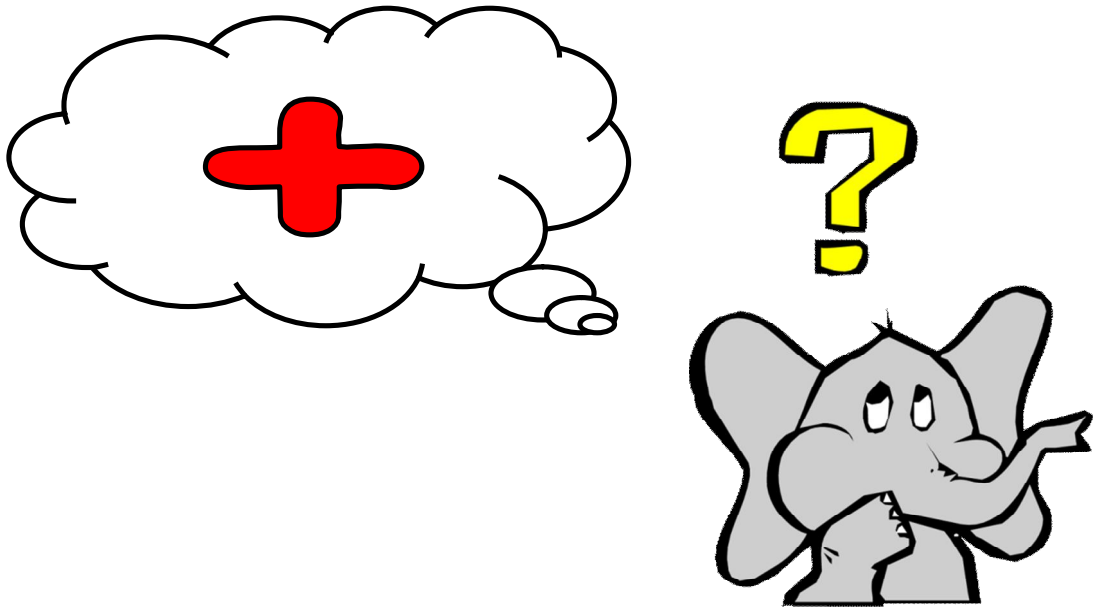
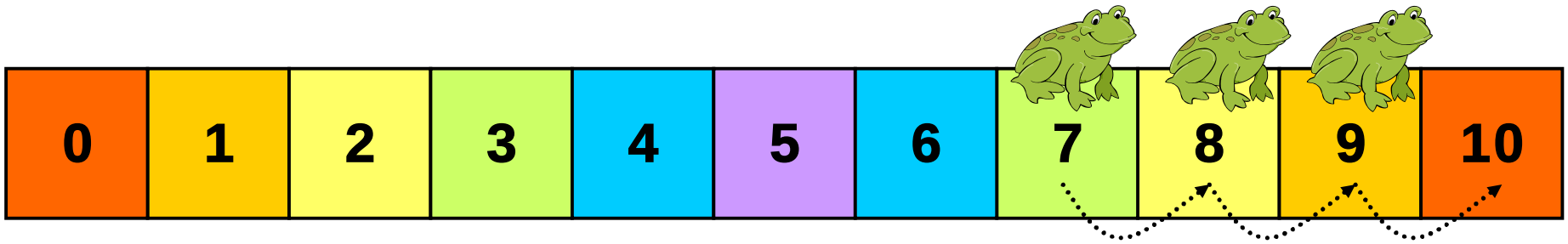
KS1 steps

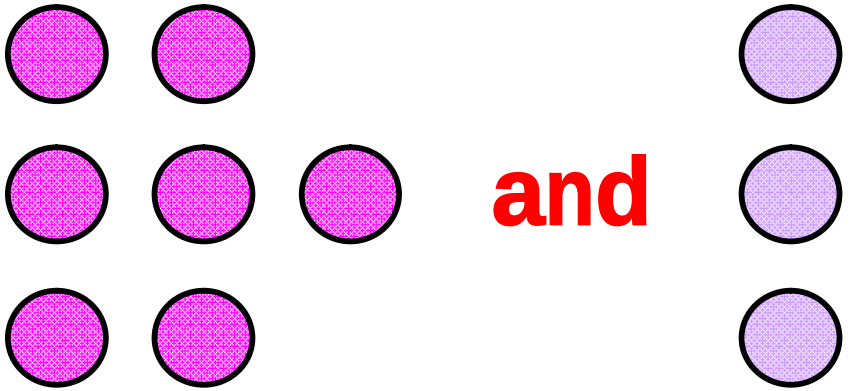


Adding single digit numbers
Counting on

number track



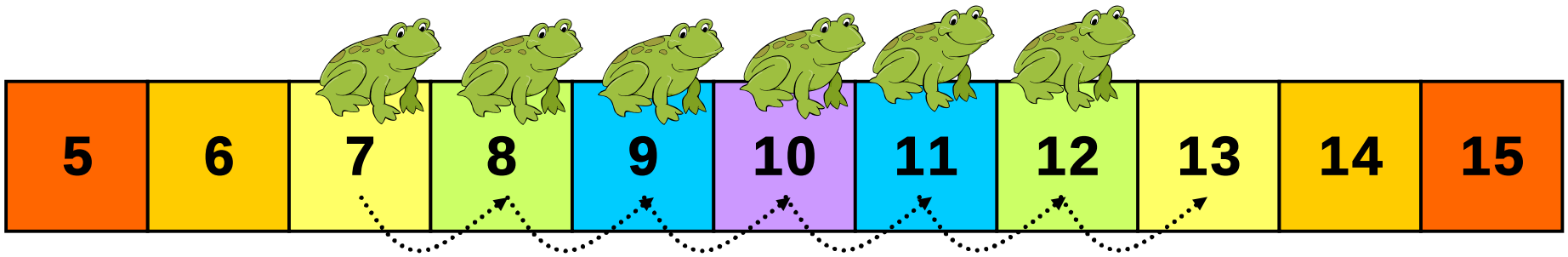
7 + 3



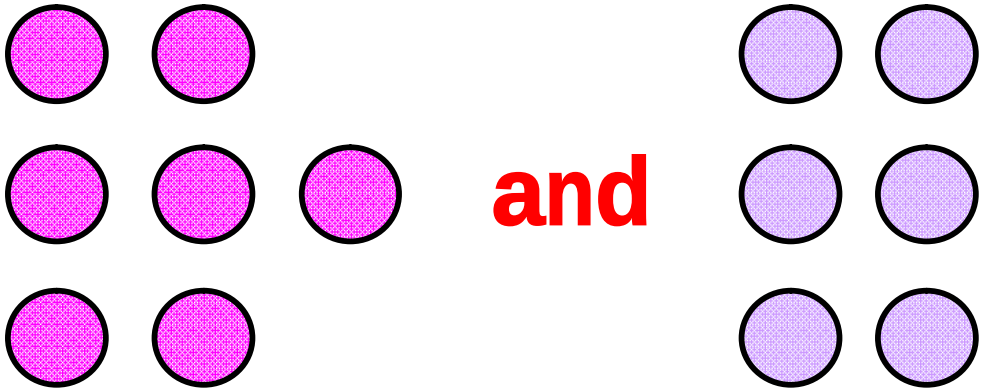
and

Adding single digit numbers
Counting on - crossing boundary

number track



7 + 6

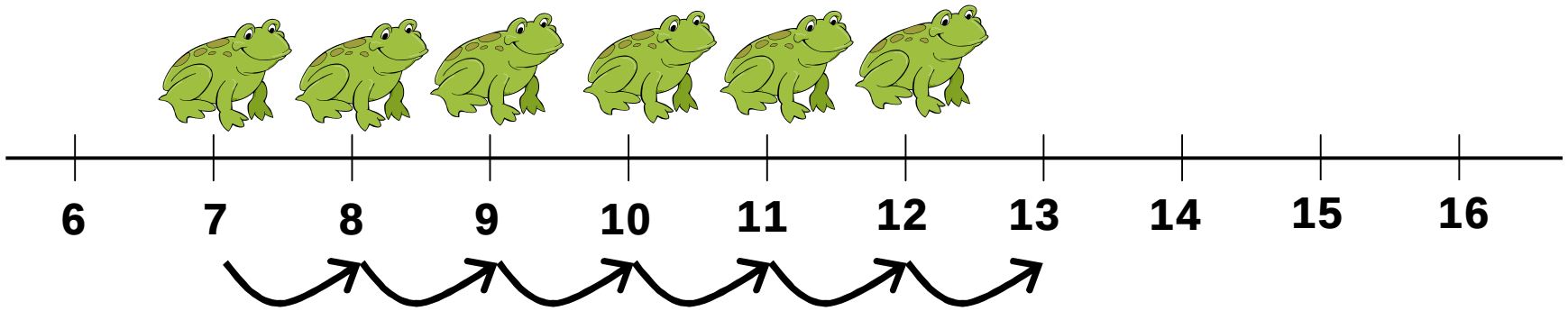


and

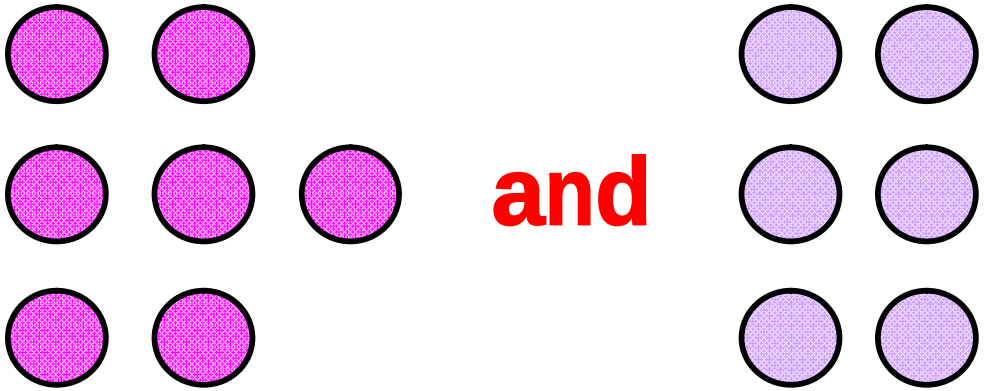
Adding single digit numbers
Crossing boundary

+ 6

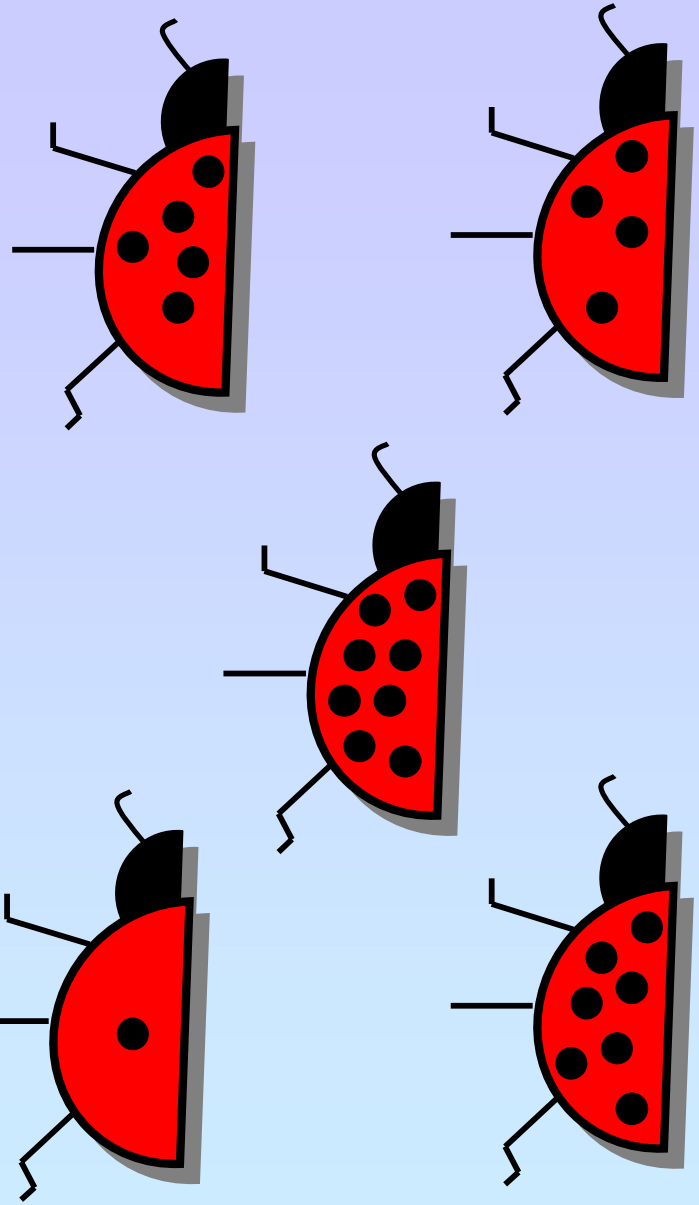
number line



7 + 6



and



10

Number Bonds

1 + 9 = 10

9 + 1 = 10

2 + 8 = 10

8 + 2 = 10

3 + 7 = 10

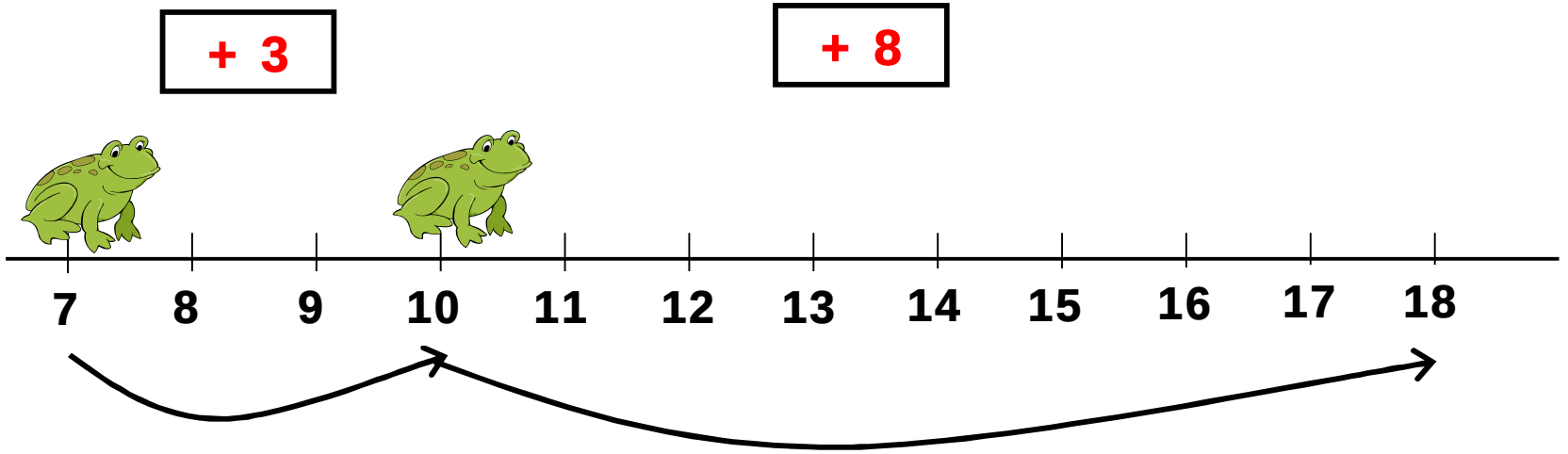
7 + 3 = 10

4 + 6 = 10

6 + 4 = 10

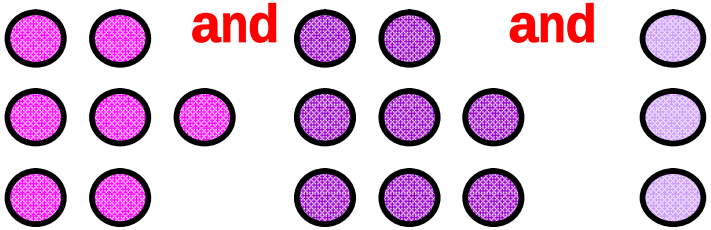
5 + 5 = 10

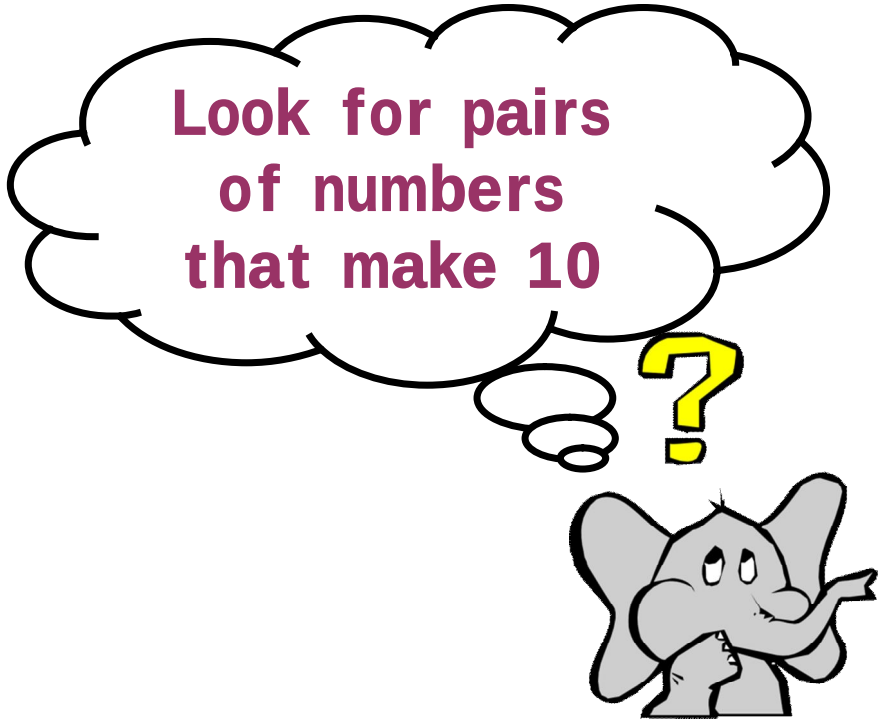
Adding several single digit numbers



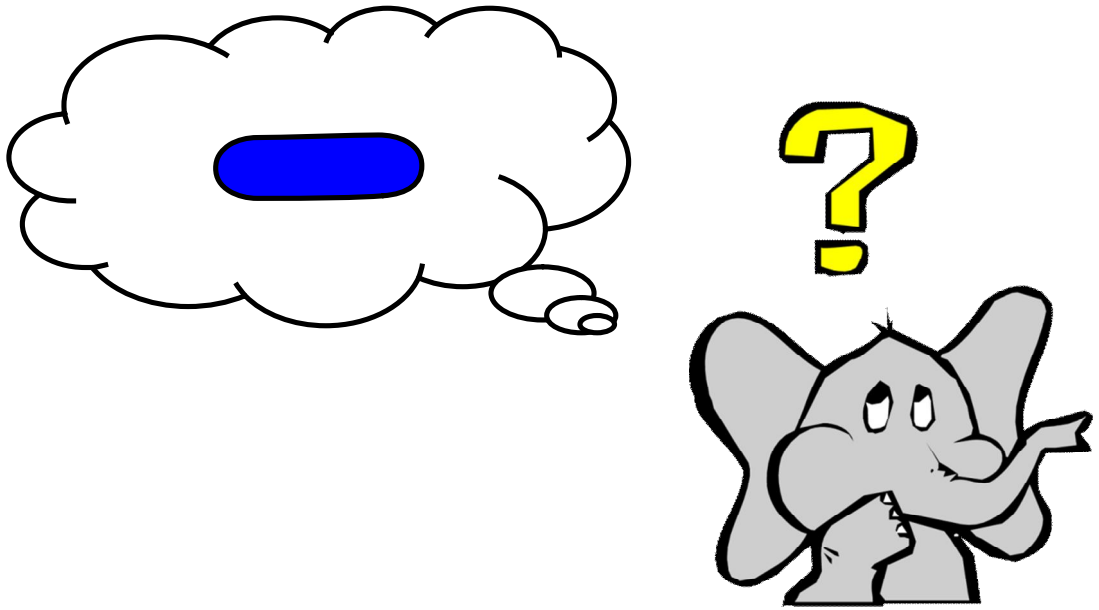
7 + 8 + 3

7 + 8 + 3



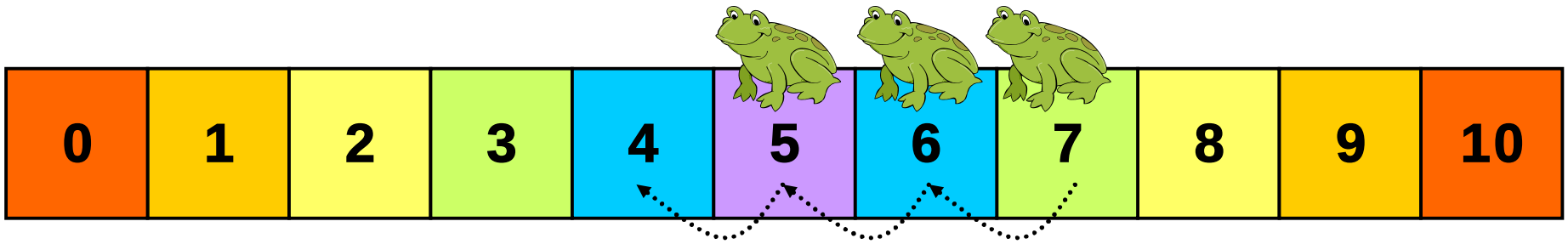


KS1 steps

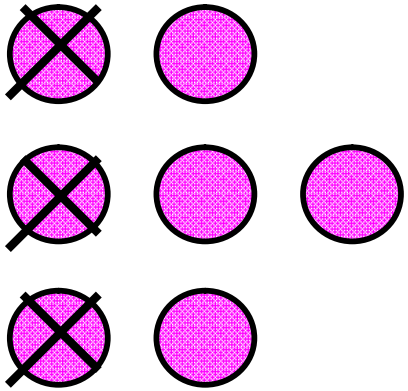


Subtracting single digit numbers
Counting back

number track



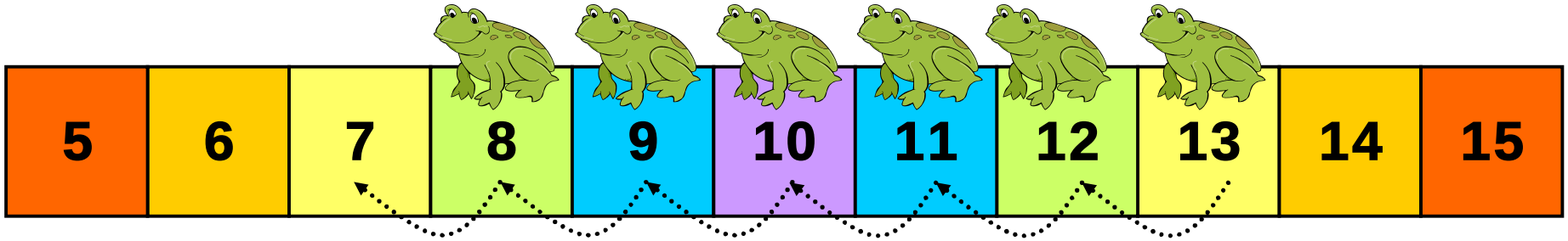
7 - 3



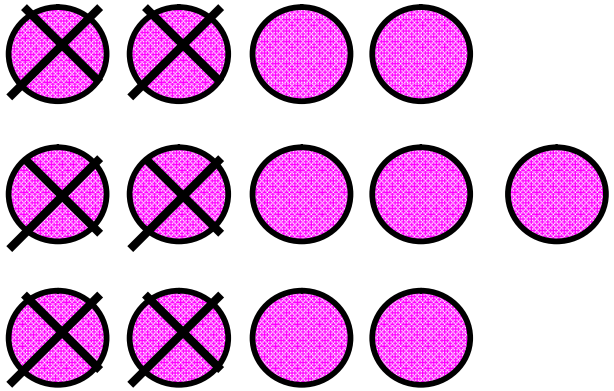
take away

Subtracting single digit numbers
Counting back – crossing boundary

number track



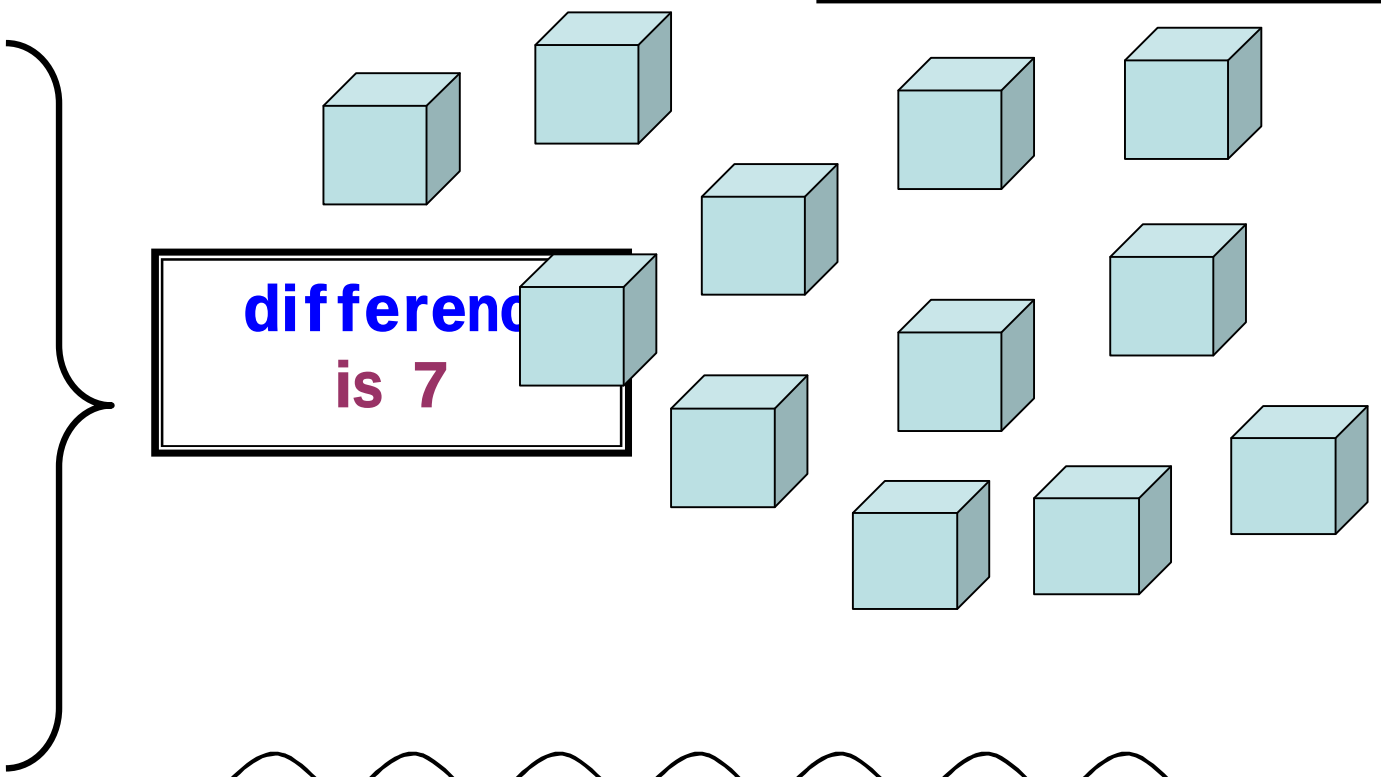
13 - 6

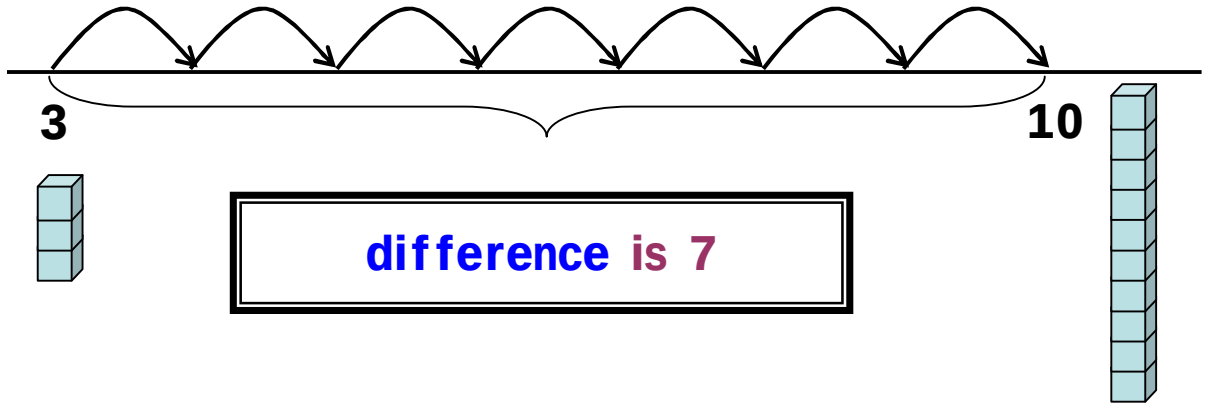


take away

Finding the difference (counting on)

What is the difference between 10 and 3?

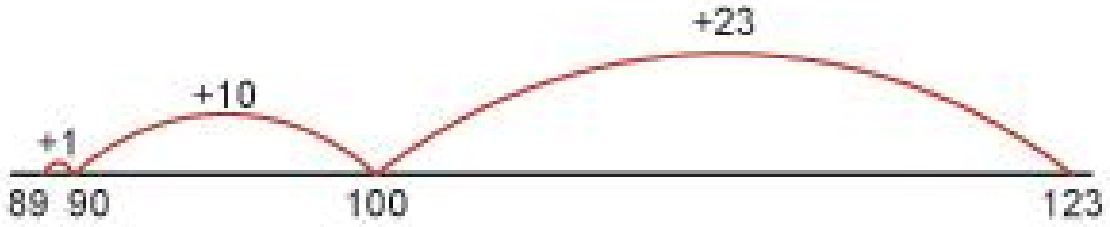




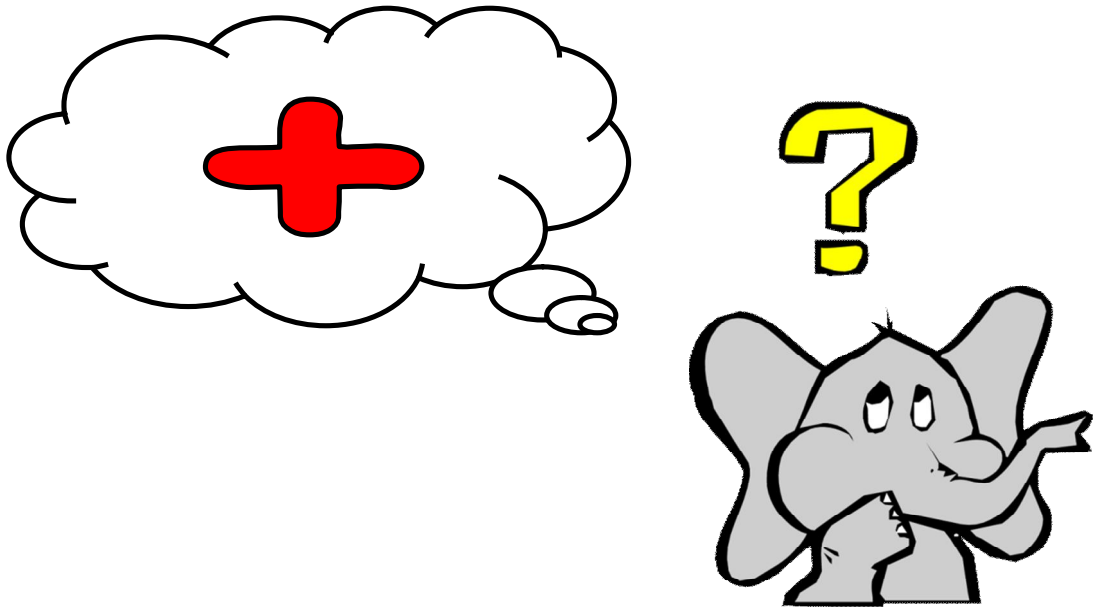
difference is 7

Subtraction using a number line

123 – 89 =



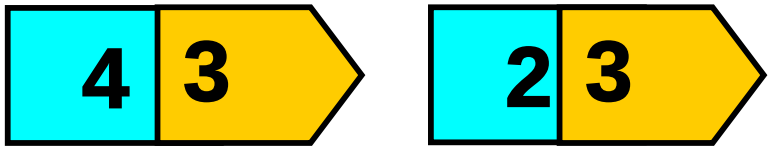
KS2 steps

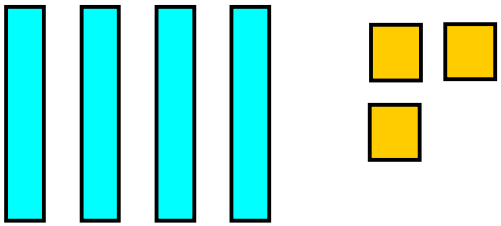


Adding 2 two - digit numbers (without carrying)

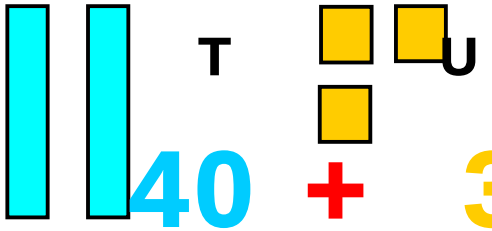
partition

43 + 23





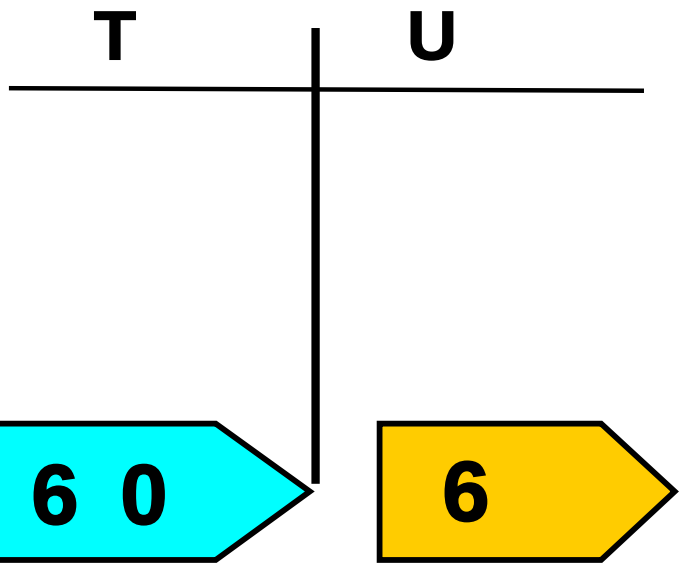
and



40 + 3

20 + 3

60 + 6

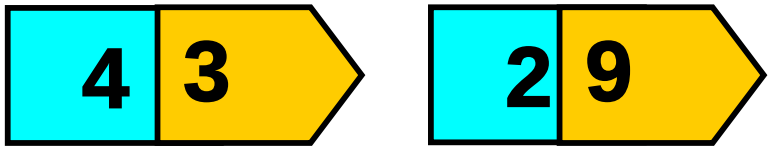


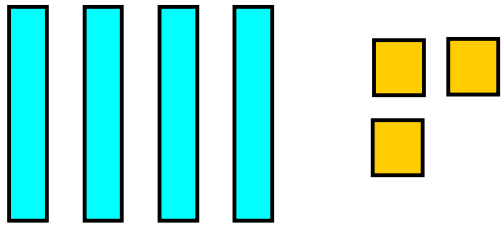
= equals

recombine

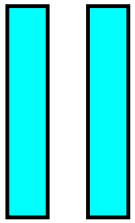
Adding 2 two - digit numbers (carrying)

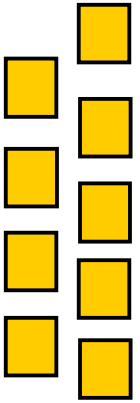
partition 43 + 29

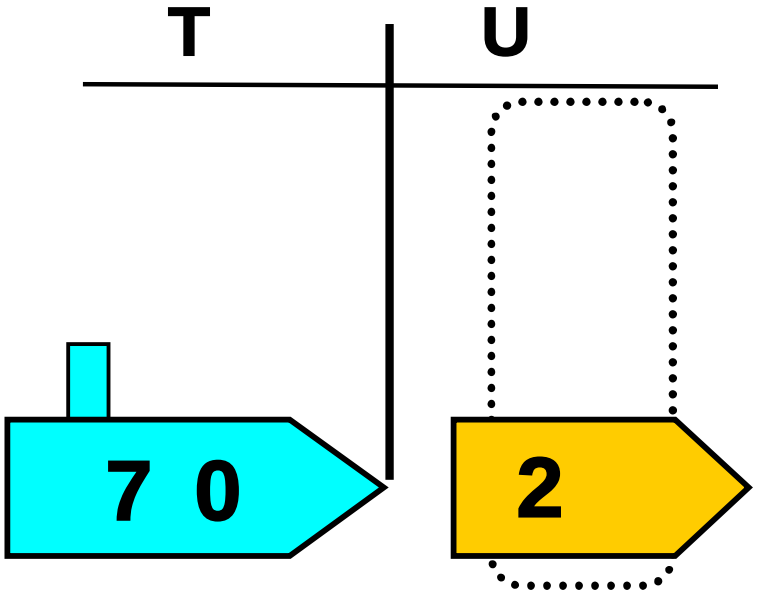




and







=

equals

recombine

Vertical layout: ("ones" / "units" digit first)

e.g.

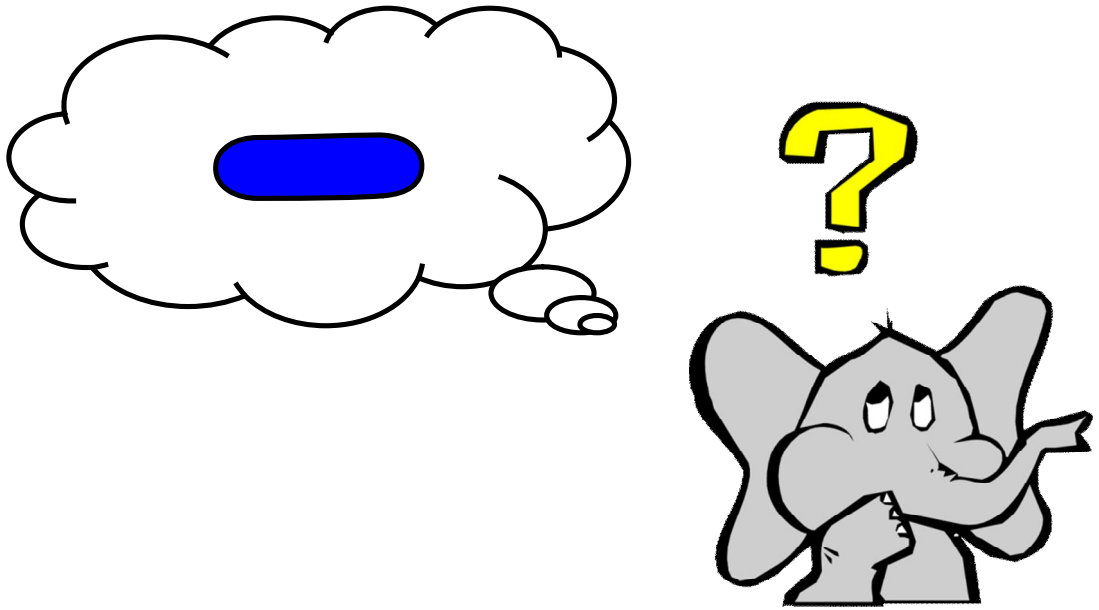
$$\begin{array}{r} 47 \\ +\ 76 \\ \hline 13 \\ 110 \\ \hline 123 \\ \hline \end{array}$$

Compact written method:

e.g.

$$\begin{array}{r} 47 \\ +\ 76 \\ \hline 123 \\ \hline 1 \end{array}$$

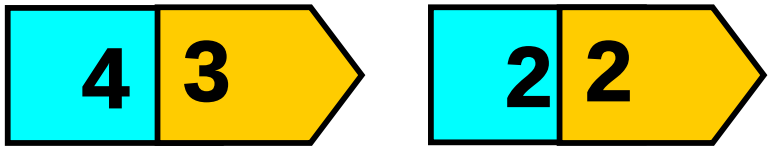
KS2 steps

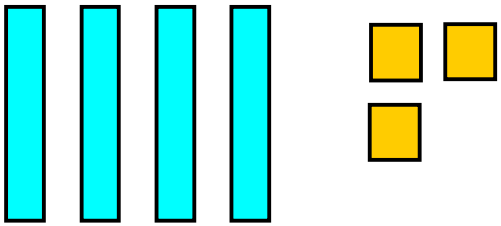


Subtracting 2 two - digit numbers (without exchanging)

partition

43 - 22

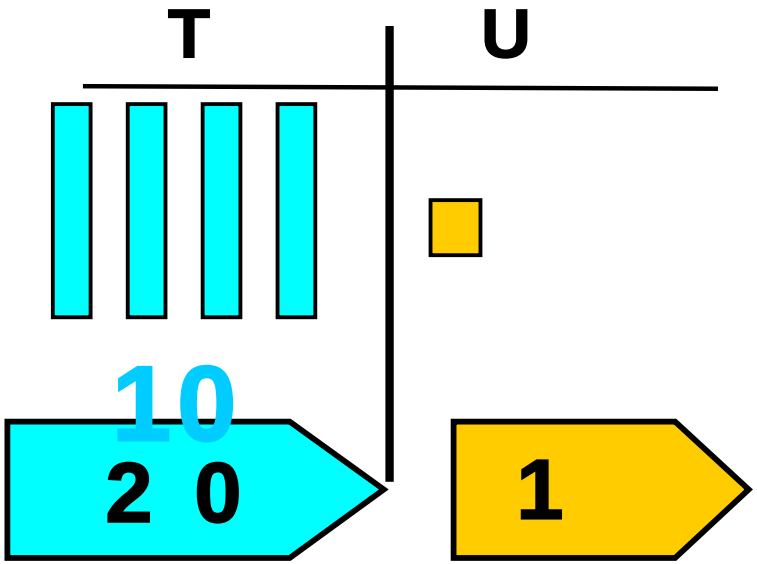




take away

20

T	U
2	
40	3
20	2
20 +	1



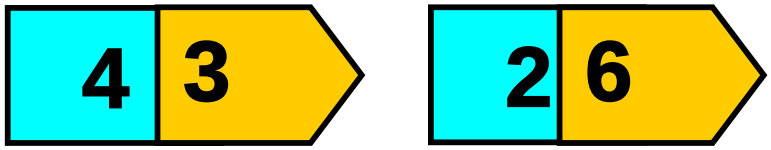
=

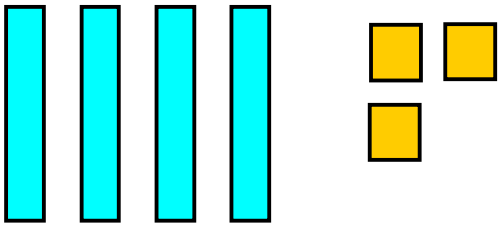
equals

recombine

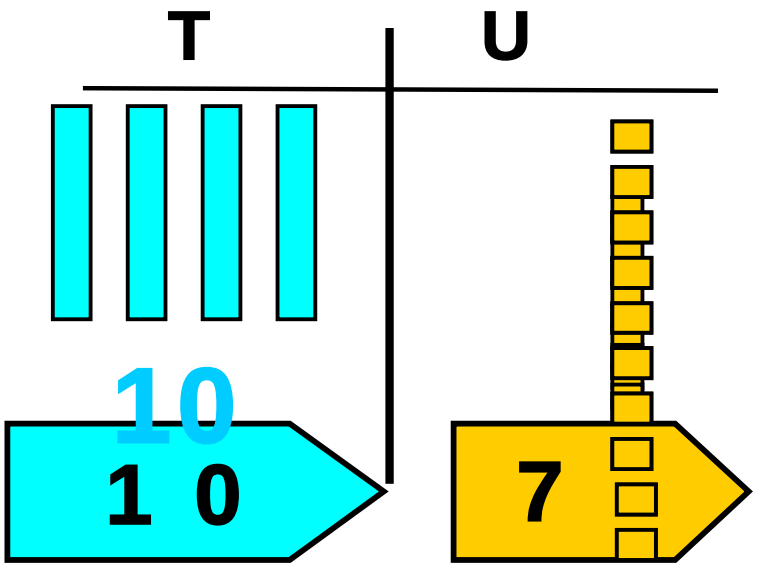
Subtracting 2 two - digit numbers (with exchanging)

partition 43 - 26





take away 20 6

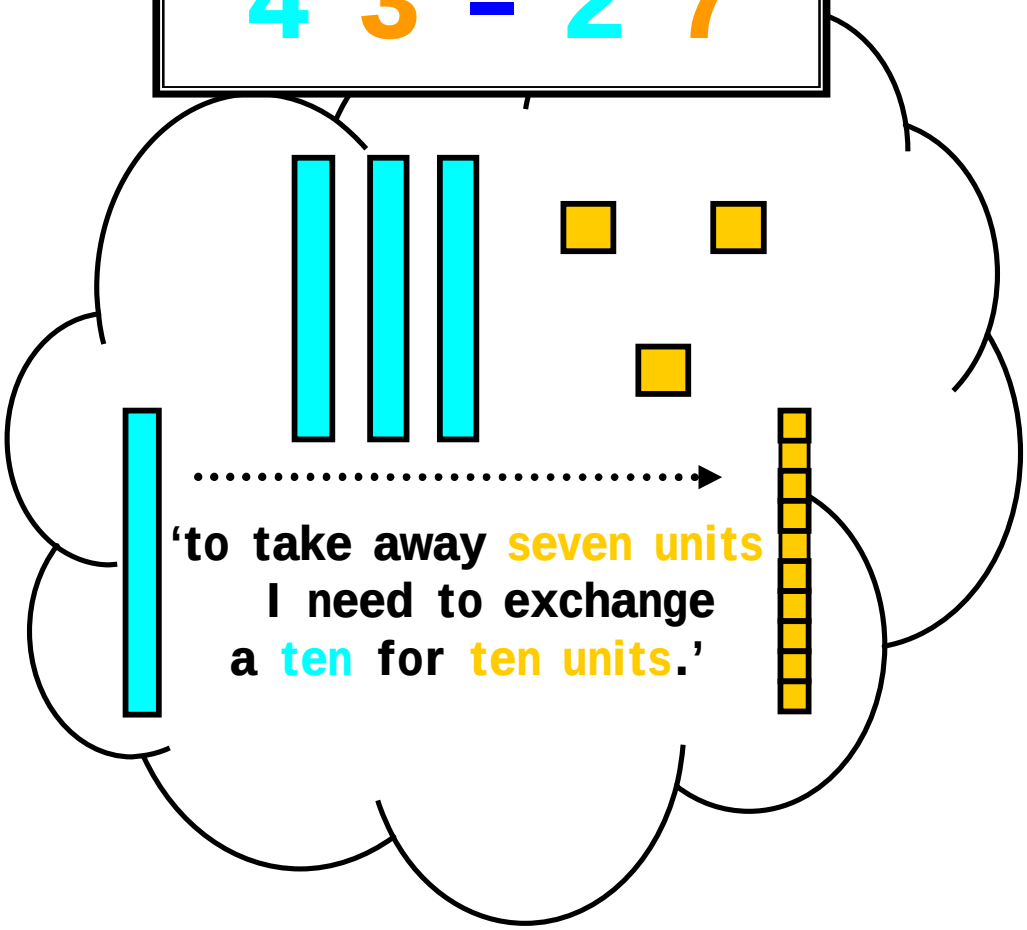


= **equals**

recombine

Subtracting with exchanging

4 3 – 2 7



T	U
4 0	3
- 2	7

T	U
30 ~~40~~	10+ 3
20	7

10 + 6

Subtraction using decomposition (compact method)

e.g.

$$\begin{array}{r} {\scriptstyle 7\ \ 1} \\ \not{8}\,1 \\ -\ 5\,7 \\ \hline 2\,4 \end{array}$$