



MATHEMATICS

Calculation Guidance

for Parents

Number Line

Learning Together

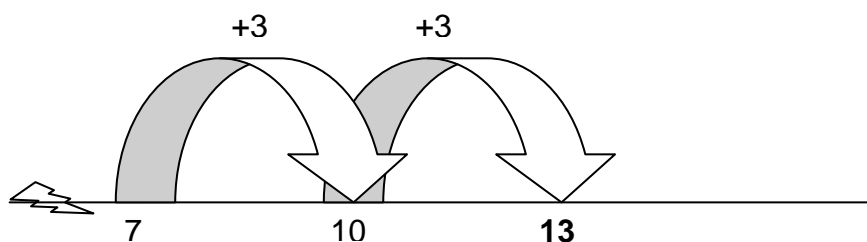
Newbury Park Primary – Maths Calculations Strategies

Addition

The number line strategy is used by children in both key stages to work out addition, subtraction and number sequence calculations. It is important for children to have experience of different types of “jumping” on a number line:

- *Jumping to the nearest ten first (target the ten)*

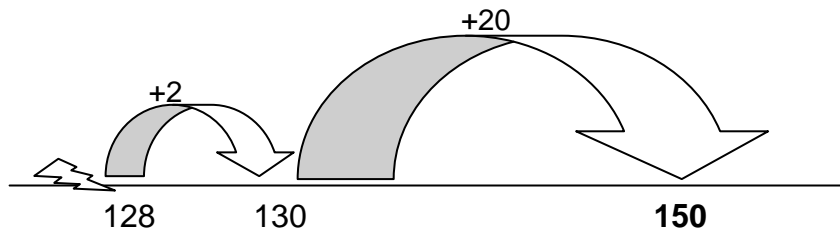
$$7 + 6 = \underline{\quad}$$



$$7 + 3 + 3 = \mathbf{13}$$

$$45 + 23 = \underline{\quad} \text{ (Practical example)}$$

$$128 + 22 = \underline{\quad}$$



$$128 + 2 + 20 = \mathbf{150}$$

$$128 + 22 = \mathbf{150}$$

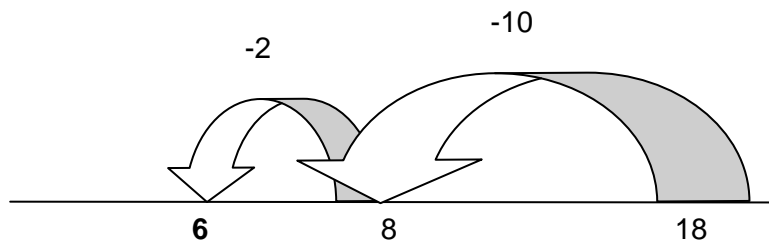
Subtraction – Number Line: Counting Back

SUBTRACTION: Counting back on a number line

- This method can be used for any subtraction at any level within KS1 and KS2.
- This method can also be easily applied, at different levels, to finding differences in values of money, measures and time.

Stage 1

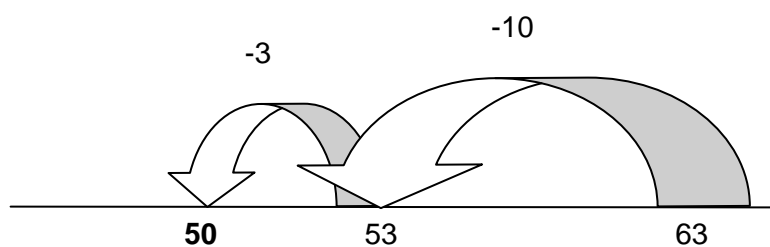
$$18 - 12 = \underline{\quad}$$



$$18 - 10 - 2 = \mathbf{6}$$

$$18 - 12 = \mathbf{6}$$

$$63 - 13 =$$

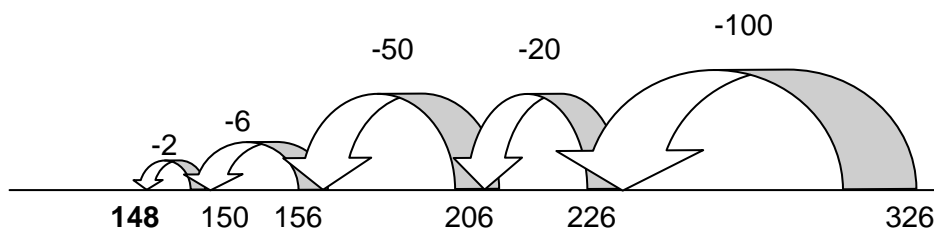


$$63 - 13 = 50$$

The number line can help organise the steps involved in subtracting a three-digit number from another three-digit number, for example in money calculations.

- o *Jumping in multiples of tens*

E.g. £3.26 - £1.78 (convert to pence first)

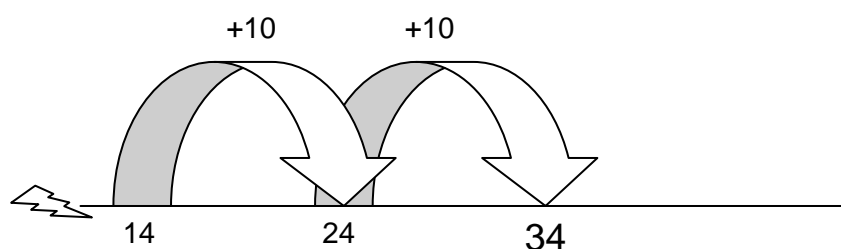


$$326\text{p} - 100\text{p} - 20\text{p} - 6\text{p} - 2\text{p} = 148\text{p}$$

$$£3.26 - £1.78\text{p} = \underline{\underline{£1.48}}$$

Subtraction – Number Line: Counting on to Extend Understanding

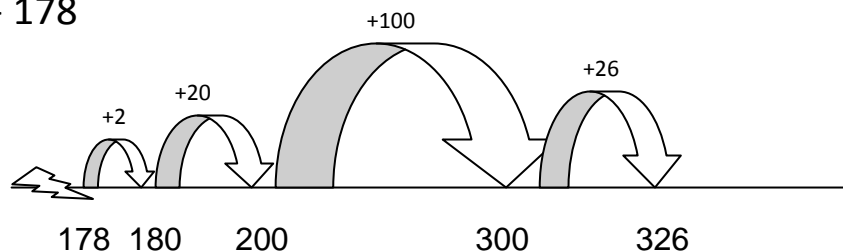
$$\text{E.g. } 34 - 20 =$$



$$34 - 20 = 14$$

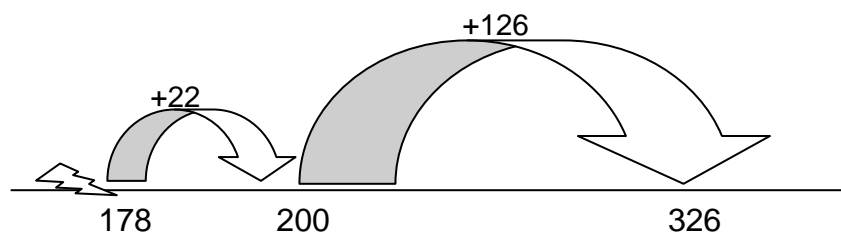
○ *Progressing to Combining Jumping Strategies*

E.g. $326 - 178$



$$100 + 26 + 20 + 2 = \underline{\mathbf{148}}$$

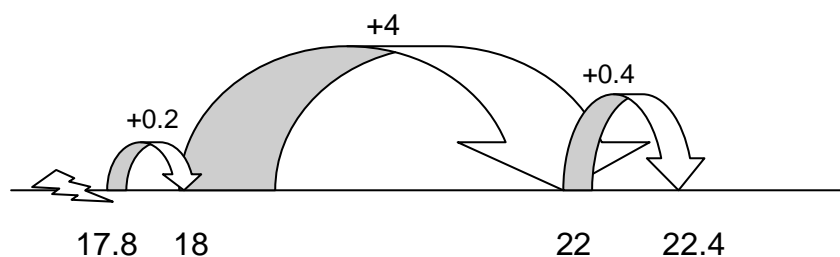
You can reduce the number of stages further, by using knowledge of pairs of numbers that total 100.



$$126 + 22 = \underline{\mathbf{148}}$$

Extend to bigger numbers and decimals.

E.g. $22.4 - 17.8$



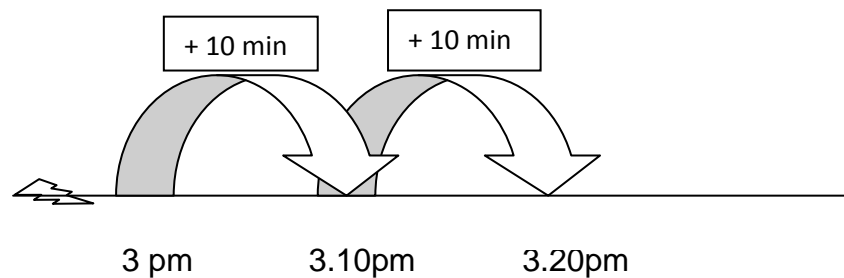
$$4 + 0.4 + 0.2 = \underline{\mathbf{4.6}}$$

$$22.4 - 17.8 = \underline{\mathbf{4.6}}$$

Time Number Line

The use of a number line to support time calculations is essential in the building, development and support of understanding time problem solving.

It is 3 pm, what time will it be in 20 minutes time?



3pm add 20 minutes = 3.20 pm

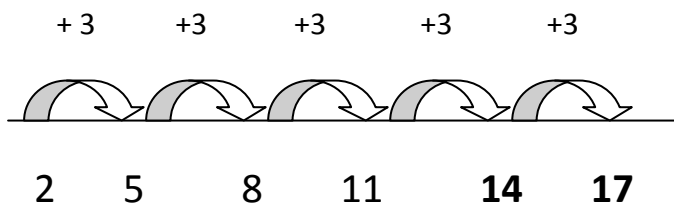
It is 4.55pm, what time will it be 1hr 15 minutes later?
(Child's example)

Number Line to Support Number Sequencing Development

The number line is a valuable tool for helping children, develop their understanding and ability at solving number sequence problems.

Q) Find the next two numbers in this sequence:

2, 5, 8, 11, __, __

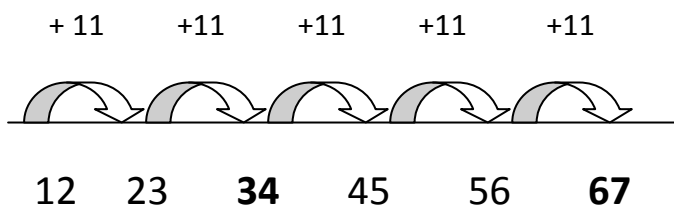


Answer: 2, 5, 8, 11, **14**, **17**

The rule is: **+3 each time**

Q) Find the missing numbers in this sequence:

12, 23, __, 45, 56, __



Answer: 12, 23, **34**, 45, 56, **67**

The rule is: **+11 each time**