Mathematics Methods

Below is a list of methods we have taught the children to use when learning multiplication, division, addition, subtraction and fractions.

Multiplication

Grouping method

Eg 5 x 2 =

5 groups of 2.

Step 1: First number tells us how many circles to draw. 5 x 2 =

Step 2: Second number tells us how many dots to put in each circle. 5 x 2 =

Step 3: Now count all the dots in all the circles to get your answer. 5 x 2 = 10

Division

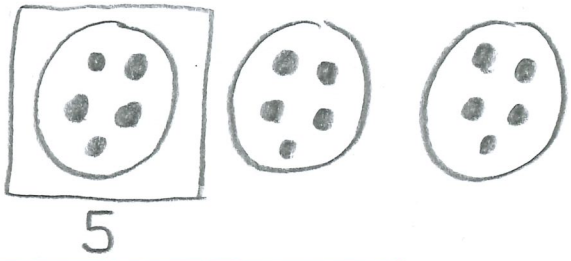
Sharing Equally method:

Eg: 15 ÷ 3 =

Step 1: Second number tells us how many circles you need to share equally into. 15 ÷ 3 = Draw the circles.

Step 2: First number tells us how many dots we have to share equally into the circles. 15 ÷ 3 = Count and put a dot in each circle until you reach 15.

Step 3: Now make sure all your circles have an equal amount of dots in each. Then choose one circle and count the dots inside. This will be your answer. 15 ÷ 3 = 5



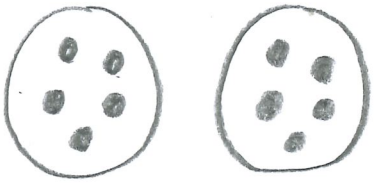
Finding a Fraction of an amount

Sharing into equal groups

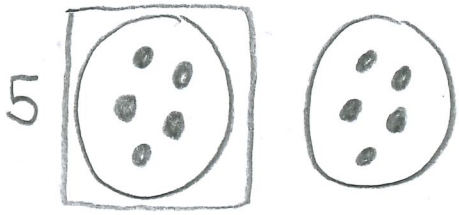
When doing this method to work out a fraction of an amount the denominator (bottom number) tells us how many circles we should draw and share into. The numerator (top number) tells us how many circles we should count to get the answer.

Eg: ½ of 10 =

Step 1: The denominator tells us we need to draw 2 circles and share 10 equally between the circles.



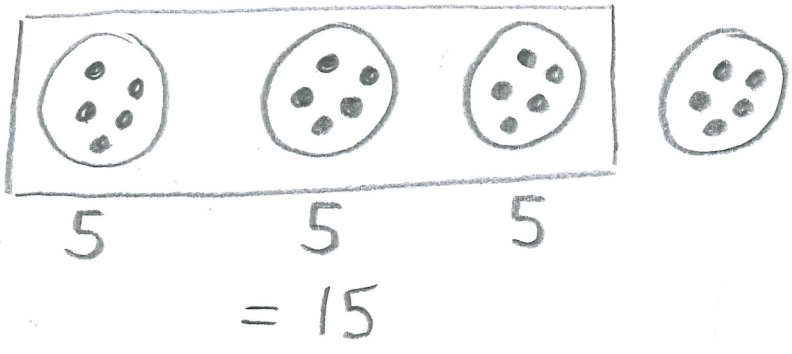
Step 2: The numerator tells us we need to count the dots in 1 circle to get the answer. ½ of 10 = 5.



Eg: 3/4 of 20 =

Step 1: The denominator tells us we need to draw 4 circles and share 20 equally between the circles.

Step 2: The numerator tells us we need to count the dots in 3 of the circles and add those dots together to get the answer. 3/4 of 20 = 15

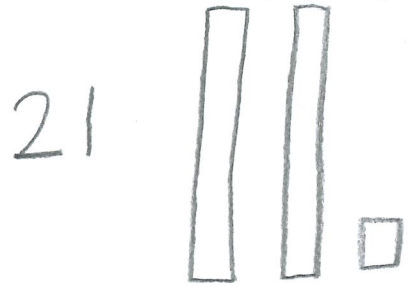


Addition

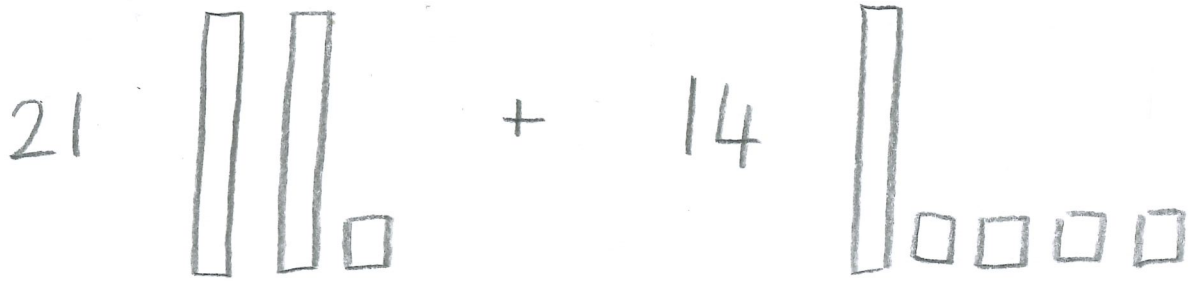
Sticks and bricks:

Eg. 21 + 14 =

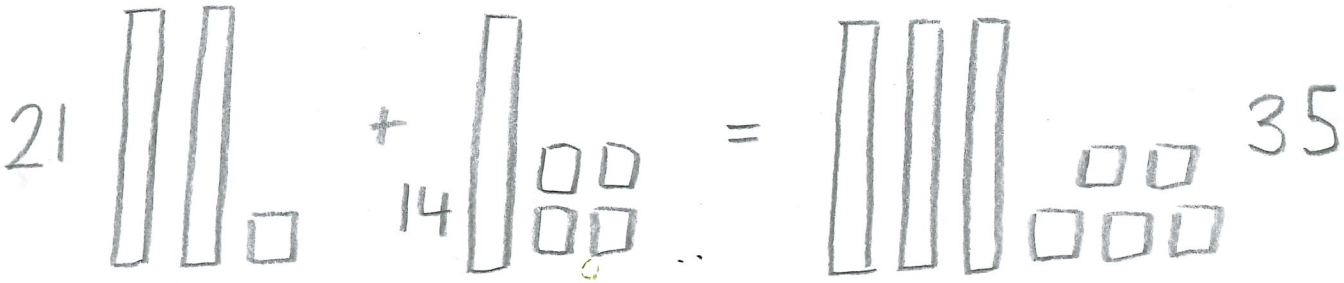
Step 1: Always start with the biggest number (21) and partition the number into tens and ones. Next to the number draw a long stick for each ten and small squares for each of the ones. There should be 2 long sticks to represent 20 and 1 square to represent 1.



Step 2: Now do the same with the other number. There should be 1 long stick to represent 10 and 4 squares to represent 4 ones.



Step 3. Add up the long sticks by counting in tens then continue counting the squares. 21 + 14 = 35

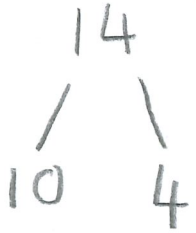


Drawing a blank number line

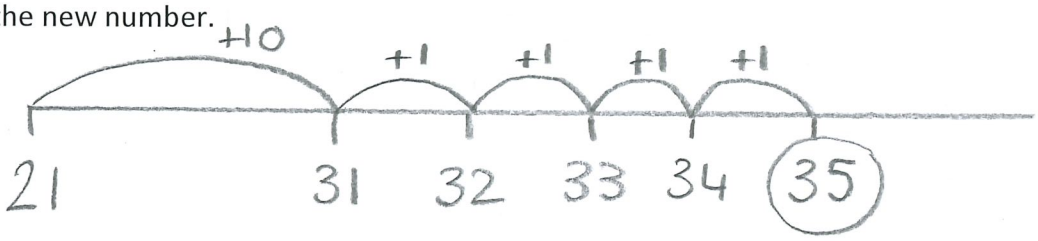
Eg. 21 + 14 =

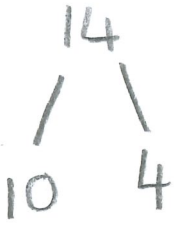
Step 1: Draw a line across the page and write the largest number, 21, at the start of the line. You will be jumping forwards as the number gets bigger.

Step 2: Partition the second number into tens and ones. Add the tens on by doing jumps of ten on the number line. Make a note of how much are you adding and the new number.



Step 3: Add on the ones once you have added the tens. Again, make a note of how much you are adding and the new number.



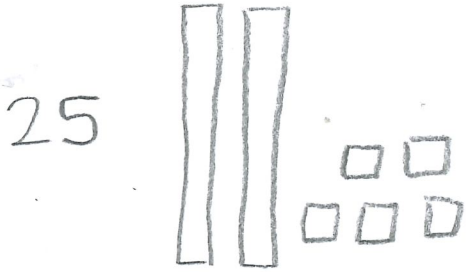


Subtraction:

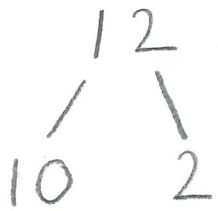
Sticks and bricks

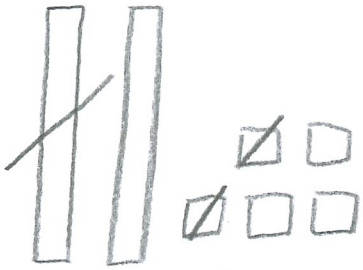
Eg. 25 – 12 =

Step 1: Draw the first number in sticks and bricks; long sticks to represent the tens, there will be 2 and squares for the ones, there will be 5.

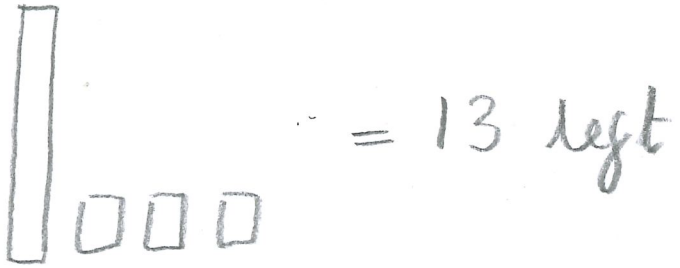


Step 2: Now partition the second number to understand how many tens you need to cross out or how many tens you need to cross out. If you need to cross the tens, you many need to swap (exchange) a long stick for 10 squares. In this case we can cross out one of the tens and 2 of the ones.





Step 3: Re-count the tens and ones you have left to get your answer. 25 – 12 = 13.

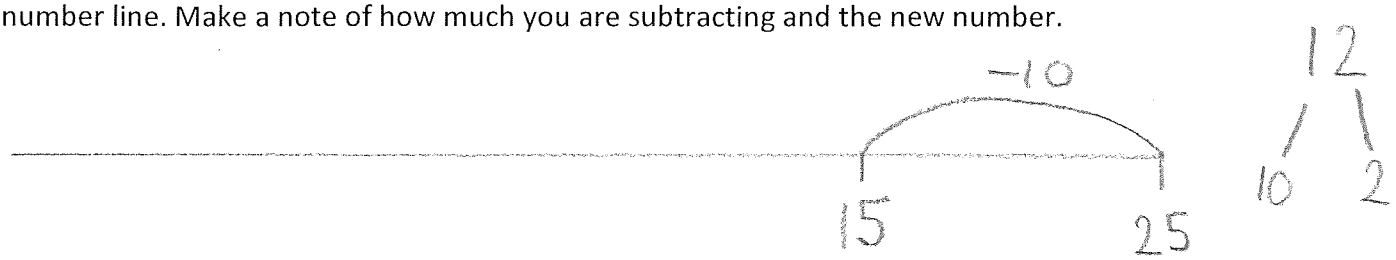


Drawing a blank number line:

Eg. 25 – 12 =

Step 1: Draw a line across the page and write the largest number, 25, at the end of the line. You will be jumping backwards as the number gets smaller.

Step 2: Partition the second number into tens and ones. Take away the tens by doing jumps of ten on the number line. Make a note of how much you are subtracting and the new number.



Step 3: Take away the ones once you have taken away the tens. Again, make a note of how much you are subtracting and the new number.