

Essential knowledge

Define commutative. Define associative. Know how to use formal methods to add or subtract integers and decimals. Know how to interpret calculator answers in context (eg. 12.5 represents £12.50).

Key Vocabulary

Commutative: changing the order of the operations does not change the result
Inverse: the operation that undoes what was done by the previous operation.
Placeholder: a number that occupies a position to give value
Perimeter: the distance/ length around a 2D object
Frequency : How often something occurs.

Prior learning links

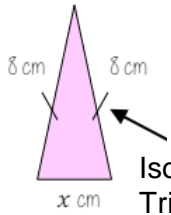
Place value. Fact families. Part, model, whole. Understanding commutative properties of addition. Add and subtract using a formal method.

Perimeter

Perimeter is the length around the outside of a polygon

The triangle has a perimeter of 25cm.

Find the length of x
 $8\text{cm} + 8\text{cm} + x\text{cm} = 25\text{cm}$
 $16\text{cm} + x\text{cm} = 25\text{cm}$
 $x\text{cm} = 9\text{cm}$



Isosceles Triangle notation

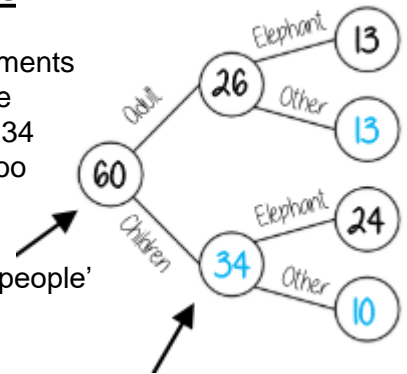
Timetables

Harton	1005	1045	1130
Bridge	1024	1106	1147
Aville	1051	1133	1205
Ware	1117	1202	1233

Each column represents a journey, each row represents the time the 'bus' arrives at that location

Frequency trees

Probabilities or statements can be taken from the completed trees e.g. 34 children visited the zoo



The overall total "60 people"

A frequency tree is made up from part-whole models. One piece of information leads to another

Formal methods for addition and subtraction

	H	T	O
	1	8	7
+	5	4	2
<hr/>			

	H	T	O
	4	2	7
-	2	4	9
<hr/>			

Remember the place value of each column. You may need to move 10 ones to the ones column to be able to subtract

4	.	3	8	
7	.	9	0	+

0 can be used to fill empty places with value

The decimal place acts as the placeholder and aligns the other values

Financial problems

Profit = Income - Costs

Credit – Money coming into an account

Debit – Money leaving an account

Money uses a two decimal place system. 14.2 on a calculator represents £14.20

Check the units of currency – work in the same unit e.g. convert the £ to p first.

Prior learning links

$$\begin{array}{r} 8 \ 5 \ 9 \\ + 1 \ 7 \ 6 \\ \hline 10 \ 2 \ 5 \end{array} \quad \begin{array}{r} 2 \ 8 \ 2 \\ 3 \ 9 \ 9 \\ + 6 \ 7 \ 5 \\ \hline 12 \ 5 \ 6 \end{array}$$

Can you spot any mistakes in the questions above?

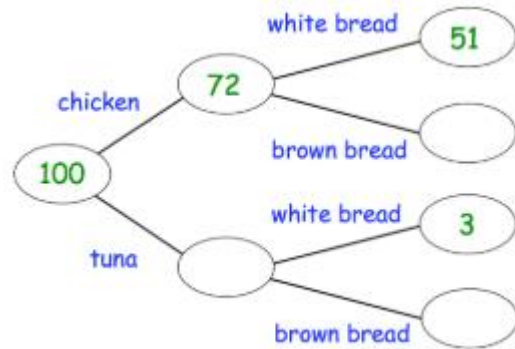
Key Vocabulary

Write a definition for the following words:

- Commutative:
- Inverse:
- Placeholder:
- Perimeter:
- Frequency:

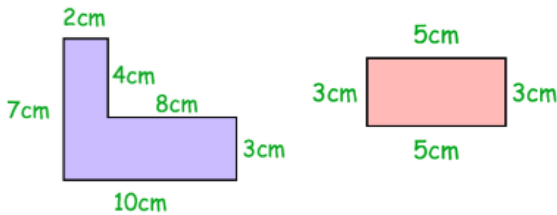
Frequency trees

Complete the frequency tree below



Perimeter

Find the perimeter of the following shapes:



Formal methods for addition and subtraction

Complete the calculations below, Write the questions as a column if it helps.

- (a) $4854 + 1162$ (b) $4611 + 3270$
- (c) $5792 + 4437$
- (a) $68 - 32$ (b) $98 - 21$ (c) $51 - 24$
- (b) $0.14 + 0.53$ (b) $0.35 + 0.65$
- (c) $2.47 + 3.34$
- (a) $7.7 - 1.5$ (b) $8.5 - 4.1$ (c) $19.7 - 18.6$

Timetables

- (a) What time does the train arrive in Gold City?
- (b) How long is the journey from Westville to Milton?
- (c) How long is the journey from Milton to Red Island?

Westville	08 45
Milton	08 58
Gold City	09 05
Red Island	09 31
Market Place	09 54

Financial problems

Previous Reading	Current Reading	Unit price
16 851	18 123	12.7p

The table shows part of an electricity bill.

How many units have been used?

If the standing charge is £23.56 what is the total bill?