

## METHOD SHEET.

### Logical Deduction.

Julie is taller than John but smaller than Joan

List the children starting with the tallest.

In this question type you are asked to read information which is given to you in a variety of formats. You are then asked to deduce (work out) the answers from the information that you have been given. These questions can be presented in many different ways and our online virtual learning environment gives many different types with professional feedback and explanation.

Look at this first example and then we can work our way through the question until we get the answer: -

Read this information carefully: -

Julie is taller than John but smaller than Joan

List the children starting with the tallest

Tallest (       )

(       )

Smallest (       )

Almost all of these question types will contain a lot of information and inserting the information into a "list" or "ladder" or "table" that makes sense to you will make the question much easier to answer. What diagram you use must suit you and will differ depending on the information that you are given.

(For ease of learning we have marked the important parts of this explanation in RED.)

Take each piece of information systemically.

In this case we know that: -

Julie is taller than John.....

So we can draw a ladder like this (if the names used are long using abbreviations of each name will save time.)

Tallest	Julie
	John
Smallest	?

So far so good, since we have put Julie above John because she is taller than John.

Now we take the second piece of information.....

(Julie is taller than John) but smaller than Joan

Tallest	Joan	} Julie and John must be moved down.
	Julie	
Smallest	John	

So we must change the order on our ladder and put Joan at the top because Julie is smaller than Joan – in other words Joan is taller than Julie. We already know that Julie is taller than John. The arrows help to illustrate the changes that we need to make.

Tallest	Joan
	Julie
Smallest	John

So our answers will be as they are in the table above.

Look at this second example and then we can work our way through the question until we get the answer: -

Read this information carefully: -

Eleanor, Ruth, Ann and Melanie are four women. Eleanor, Ruth and Melanie own a sports car. Ann owns a van. Eleanor's and Melanie's vehicles are red and the other vehicles are green. Ruth and Melanie have radios in their vehicles the others do not have a radio.

- Q1 What colour is Eleanor's sport car?
- Q2 Who owns a van?
- Q3 What colour is the van?
- Q4 How many vehicles are red and do not have a radio?
- Q5 What colour is Melanie's car?

There is a lot of information here so we must take it piece by piece and put it into a table that makes sense to us.

(For ease of learning we have marked the important parts of this explanation in RED.)

The first piece of information we have is: -  
Eleanor, Ruth, Ann and Melanie are four women.

So we know that there are four women and we need to put this information into a table. (Try to be as neat as you can because this table will have more and more information added to it.)

E				
R				
A				
M				

Notice that we have shortened the names to the first letter to save a bit of time.

The next piece of information is: -

Eleanor, Ruth and Melanie own a sports car. Ann owns a van.

So we will add this information to the table.

	car	van		
E	✓	✗		
R	✓	✗		
A	✗	✓		
M	✓	✗		

Note that we have put a ✓ when the person owns that vehicle and a ✗ when they do not own that vehicle. (If they own a van then we assume that they cannot own a car, unless the question says different.) We can then read information from the table. The arrows show how we can read that Ann owns a van.

The next piece of information is about the colour of the vehicles: -

Eleanor's and Melanie's vehicles are red and the other vehicles are green.

So we will add this information to the table.

	car	van	red	green
E	✓	✗	✓	✗
R	✓	✗	✗	✓
A	✗	✓	✗	✓
M	✓	✗	✓	✗

Again we have put a ✓ against the colour of each person's vehicle and a ✗ when their vehicle is not that colour. (If their car is red then we assume that it cannot be green as well, unless the question says different.) We can then read information from the table. The arrows show how we can read that Ann owns a van and it is green.

The next piece of information is about whether the vehicles have a radio or not: -

Ruth and Melanie have radios in their vehicles the others do not have a radio.

So we will add this information to the table.

	car	van	red	green	radio	NO radio
E	✓	x	✓	x	x	✓
R	✓	x	x	✓	✓	x
A	x	✓	x	✓	x	✓
M	✓	x	✓	x	✓	x

Again we have put a ✓ against the person who has a radio and a x when they do not have a radio. (If they have a radio then obviously they cannot, at the same time “not” have a radio.) We can then read information from the table.

The arrows show how we can read that Ann owns a van and it is green, and she does NOT have a radio.

Now that the table is complete we can answer all our questions.

- Q1 What colour is Eleanor’s sport car? RED
- Q2 Who owns a van? ANN
- Q3 What colour is the van? GREEN
- Q4 How many vehicles are red and do not have a radio? ONE
- Q5 What colour is Melanie’s car? RED

With practice you can become quicker at creating these tables because you can leave out the x when you have already used ✓ because, as in this case, the vehicle cannot be two colours at once!!

Look at this third example and then we can work our way through the question until we get the answer: -

Read this information carefully: -

Share 36 sweets among Peter, Mark and John so that for every 4 sweets that Peter gets Mark gets 2 sweets and John gets 3 sweets.

- Q1 How many sweets does Peter get?
- Q2 How many sweets does Mark get?
- Q3 How many sweets does John get?

At first this question looks very complicated.  
We can consider this question as a "parts" question.  
(For ease of learning we have marked the important parts of this explanation in RED.)

We will look at the facts: -

for every 4 sweets that Peter	(we will call these 4 parts)
Mark gets 2 sweets	(we will call these 2 parts)
John gets 3 sweets.	(we will call these 3 parts)

If we add the number of parts we will get the total number of parts.

(	4 parts)
(	2 parts)
(	3 parts)
	9 parts

We now know that there are a total of 9 parts and we know that there are 36 sweets (or parts.)

If we divide 36 by 9 we will calculate what each part is worth and this will be 4.

We can now calculate how many sweets each person gets.

Peter gets 4 parts.	So 4 multiplied by 4 equals 16.
Mark gets 2 parts.	So 2 multiplied by 4 equals 8.
John gets 3 parts.	So 3 multiplied by 4 equals 12.

We can now answer all our questions.

Q1	How many sweets does Peter get?	16 sweets
Q2	How many sweets does Mark get?	8 sweets
Q3	How many sweets does John get?	12 sweets

You will notice that if you add together how many sweets each person receives this will add up to 36 – the total number of sweets given in the question.

Look at this third example and then we can work our way through the question until we get the answer: -

Read this information carefully: -

Together 5 children have £8.00. There are 2 girls and 3 boys.  
The girls together have exactly the same amount as the boys.  
Sue has 50p more than Ann.  
Dave has the same amount as Len and Fred together.  
Len has 60p more than Fred.

How much do they each have?

We will look at each piece of information in turn and add it to the table below.  
(For ease of learning we have marked the important parts of this explanation in RED.)

The first piece of information we have is: -

There are 2 girls and 3 boys. So let's find their names and add the names to the table with the boys together and the girls together. (We are putting the boys together and the girls together because the question tells us that The girls together have exactly the same amount as the boys and this will be important.)

Dave			
Len			
Fred			
Sue			
Ann			

The next piece of information we have is: -

The girls together have exactly the same amount as the boys in other words half of £8.00 which is £4.00 shared by the boys and £4.00 shared by the girls.

Dave	Boys share £4.00		
Len			
Fred			
Sue	Girls share £4.00		
Ann			

The next piece of information we have is: -

Sue has 50p more than Ann.

Dave	Boys share £4.00		
Len			
Fred			
Sue	Girls share £4.00	+ 50p	
Ann			

We have written + 50p against Sue. So to calculate how much each girl has we must first subtract 50p from £4.00 because Sue has 50p more than Ann.

Look at our calculations: -

£4.00 subtract 50p gives us £3.50.

Divide £3.50 by 2 to give us £1.75. (This will be the amount that Ann has.)

When we add back the 50p we will get how much Sue has.

So £1.75 plus 50p gives us £2.25. (This will be the amount that Sue has.)

When we add £1.75 and £2.25 we will get £4.00.

Dave	Boys share £4.00		
Len			
Fred			
Sue	Girls share £4.00	+ 50p	£2.25
Ann			£1.75

So now we have how much each girl has.



The next piece of information we have is: -

Dave has the same amount as Len and Fred together.

So if Dave has the same as Len and Fred together he must have £2.00

Dave			£2.00
Len	Boys share £4.00	+ 60p	
Fred			
Sue	Girls share £4.00	+ 50p	£2.25
Ann			£1.75

The next piece of information we have is: -

Len has 60p more than Fred.

We calculate this in the same way as we worked out how much each girl had.

We have written + 60p against Len and also put £2.00 against Dave.

So to calculate how much Len and Fred have each we must first subtract 60p from £2.00 because Len has 60p more than Fred and they have £2.00 between them.

Look at our calculations: -

£2.00 subtract 60p gives us £1.40.

Divide £1.40 by 2 to give us £0.70. (This will be the amount that Fred has.)

When we add back the 60p we will get how much Len has.

So £0.70 plus 60p gives us £1.30. (This will be the amount that Len has.)

When we add £0.70 and £1.30 we will get £2.00.

We can then add this information to our table down below.

Dave	Boys share £4.00	+ 60p	£2.00
Len			£1.30
Fred			£0.70
Sue	Girls share £4.00	+ 50p	£2.25
Ann			£1.75

### THINGS TO LOOK OUT FOR!!!!

These question types will contain a lot of information presented in a variety of ways. Make sure that you work systemically **and use some sort of "diagram" that you are comfortable with** and which can be used to put the information into.

Check that totals add up to the figures given in the question.

These questions will probably take you some time and may still be worth only one mark, on some occasions there may be more than one question based on the information that **you are given, so being systematic and neatly creating the "diagram" can be time well spent.**

If you are still not sure about the method, take more time and look again at the examples above.

The method that you use should suit your personal learning methods and be one that you are at ease with using.

Avoid guessing the answer – though if you are completely stuck a guess is better than a blank answer space.

There may be different methods for solving the same Verbal Reasoning question.

*NB When you are completing a Verbal Reasoning test in Multiple-Choice format the correct answer will always be one of the choices that you are given on your answer sheet. If your answer does not match one of the answers that you are given then your answer is wrong.*

*Practising a variety of question types will help prepare your child for a real-life test situation.*