How To Solve Logic Problems

Welcome to the world of Logic Problems! They may look complicated, but you don't need any specialist knowledge to solve them. You'll soon find that common-sense and a cool head are all that are required to meet the challenge.

With each standard problem we provide a chart that takes into account every possibility to be considered in the solution. First, you carefully read the statement of the problem in the introduction, and then consider the clues. Next, you enter in the chart all the information immediately apparent from the clues, using an 'X' to show a definite 'no' and a '✓' to show a definite 'yes'. You'll find that this narrows down the possibilities and might even reveal some new definite information. So now you re-read the clues with these new facts in mind to discover further positive/negative relationships. Be sure to enter information in all the relevant places in the chart, and to transfer newly-discovered information from one part of the chart to all the other relevant parts. The smaller grid at the end of each problem is simply a quick-reference chart for all your findings.

Now try your hand at working through the example below – you'll soon get the hang of it.

EXAMPLE
Three children live in the same street. From the two clues given below, can you discover each child's full name and age?

Clues
1 Miss Brown is three years older than Mary.
2 The child whose surname is White is 9 years old.

Solution
Miss Brown (clue 1) cannot be Brian, so you can place an 'X' in the Brian/Brown box. Clue 1 tells us that she is not Mary either, so you can put an 'X' in the Mary/Brown box. Miss Brown is therefore Anne, the only possibility remaining. Now place a '✓' in that box in the chart, with corresponding 'X's against the other possible surnames for Anne.

If Anne Brown is three years older than Mary (clue 1), she must be 10 and Mary, 7. So place '✓'s in the Anne/10, Brown/10 and Mary/7 boxes, and 'X's in all the empty boxes in each row and column containing these '✓'s. The chart now reveals Brian's age as 9, so you can place a '✓' in the Brian/9 box. Clue 2 tells us that White is 9 years old too, so he must be Brian. Place a '✓' in the White/9 box and 'X's in the remaining empty boxes in that row and column, then place a '✓' in the Brian/White box and 'X's in all the remaining empty boxes in that row and column.
You can see now that the remaining unfilled boxes in the chart must contain '✓'s, since their rows and columns contain only 'X's, so they reveal Green as the surname of 7-year-old Mary.

	Brown	Green	White	7	9	10
Anne	✓	✗	✗	✗	✗	✓
Brian	✗			✗		✗
Mary	✗			✓	✗	✗
7	✗					
9	✗					
10	✓	✗	✗			

	Brown	Green	White	7	9	10
Anne	✓	✗	✗	✗	✗	✓
Brian	✗	✗	✓	✗	✓	✗
Mary	✗		✗	✓	✗	✗
7	✗		✗			
9	✗	✗	✓			
10	✓	✗	✗			

In summary
Anne Brown, 10.
Brian White, 9.
Mary Green, 7.