

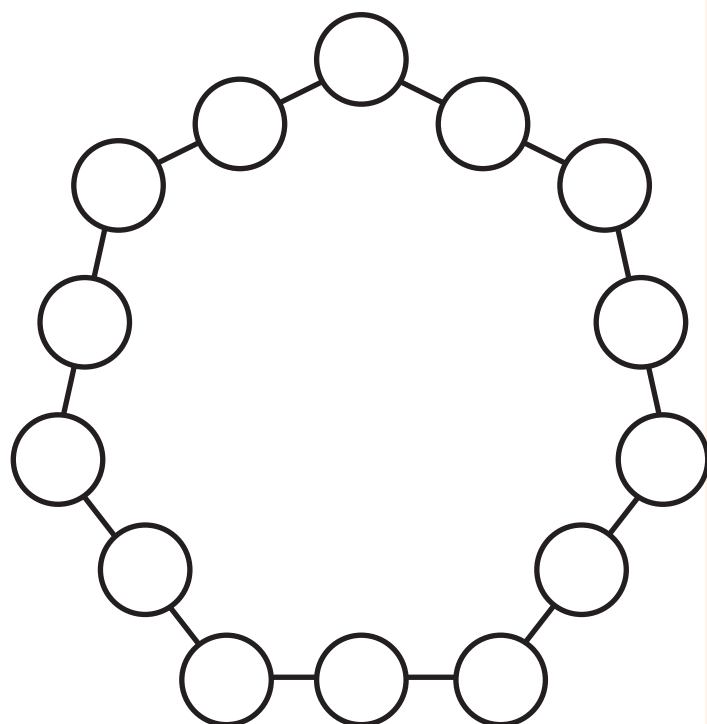
MATHMAG

1. SEPTAGON PUZZLE

Using the fourteen numbers 1, 2, 3, 4 ... 14, place a different number in every circle so that the three numbers in every one of the seven sides add up to 19.

Challenge:

Try placing the numbers so that the seven sides add to 22.



2. TWO-DIGIT GAME

The first player says 'eleven' (11). Then each player in turn must say a larger 2-digit number than the last number spoken, but one digit must be the same (and in the same place) as the last number.

The player who is forced to say '99' loses.

Here is a sample game

11, 31, 37, 67, 69, 89, 99 (loses)

3. MULTIPLICATION MADNESS

Each of these boxes stands for the same number. What is the number?

$$\begin{array}{r}
 \square \square \square \\
 \times \square \\
 \hline
 3996
 \end{array}$$

4. FIGURE THE AGE

Two girls are each less than 9 years old. They are not the same age. The sum of their ages is 14 years. One girl is older than 6. How old are the two girls?

5. THE GRID

Complete this grid using the clues that are provided.

Use the digits 1 to 9 once each.

- Row A has all even digits
- Row B has all odd digits.
- 2 and 6 are in the same column.
- 6 is not in the same row as 4.
- 1 and 9 are in the same row.

	A	B	C	
A				14
B				15
C				16
	14	15	16	45
	Totals			

6. SQUARES

- Starting at the top left hand corner of your tables chart, draw a successfully larger square.

1

1	2
2	4

1	2	3
2	4	6
3	6	9

1	2	3	4
2	4	6	8
3	6	9	12
4	8	12	16

Add the numbers in each square.

- Try to predict the sums for the next three square shapes. Check your predictions.
- Try to find a quick way of discovering the 8th, 9th and 10th square numbers. Verify your predictions.

The numbers in the bottom-right corners are called the square numbers.

7. WHICH NUMBER AM I?

- I am one of the numbers 26 to 50
- I am not a multiple of 7
- I am not a multiple of 8
- I am not a multiple of 9
- I am not a multiple of 10
- I am not a multiple of 11
- I am one more than a multiple of 5
- The sum of my digits is not 5
- My two digits do not differ by 1
- I am not one more than a square number

26	27	28	29	30
31	32	33	34	35
36	37	38	39	40
41	42	43	44	45
46	47	48	49	50

Challenge: try making your own number puzzle!

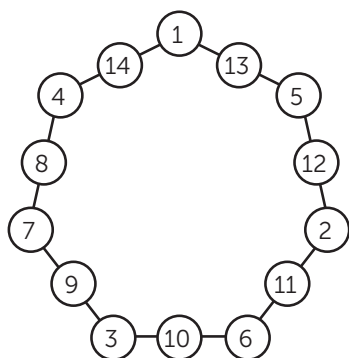
8. JAMES'S JAR

James got a jar of lollies as a present on Monday. He ate half the lollies that day. The next day, he ate three-quarters of the number of lollies that he had eaten the day before. There were eight lollies left.

How many lollies were in the jar to begin with?

ANSWERS

1:



3:

$$\begin{array}{r} \boxed{6} \quad \boxed{6} \quad \boxed{6} \\ \times \quad \boxed{6} \\ \hline 3 \quad 9 \quad 9 \quad 6 \end{array}$$

4: 6 and 8

7: 31

5:

8	2	4
5	7	3
1	6	9

8: 64

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