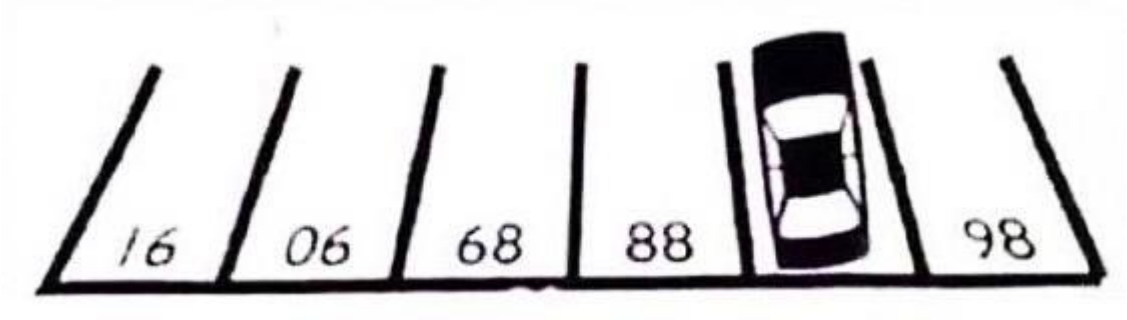
Logic and Maths Puzzles # 65 December 2017

Warning: ***Questions 1 & 2 are "Think outside the box" type puzzles***

1. What number is under the parked car?



2. Given these examples,

8809 = 6	5555 = 0	7141 = 0	2222 = 0	9881 = 5
8193 = 3	4172 = 0	8096 = 5	5531 = 0	0000 = 4
6666 = 4	1012 = 1	1111 = 0	3333 = 0	9313 = 1
7777 = 0	3213 = 0	9999 = 4	6855 = 3	7756 = 1

solve 2581 = ?

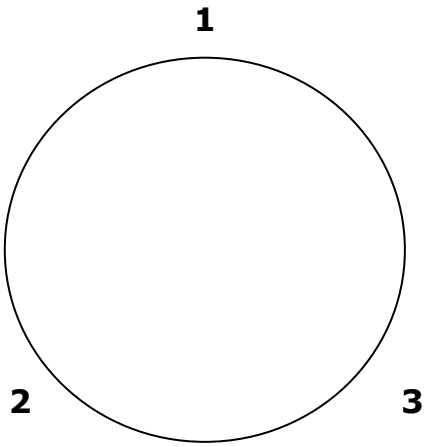
3. **If** the first two statements are correct is the third statement necessarily true or false?
(It doesn't matter whether you think the statements are actually true or not, just apply the logic.)

Some chess players are left handed.
All left-handed people play the piano.
True or False? "**Some piano players play chess**."

4. Given that **2025** is a perfect square, can you calculate its square root with a few seconds of mental arithmetic?

5. I had some lollies.
I gave 50 % of them to Rita, 33 $^{1}/_{3}$ % to Sue, and I kept the last four for myself.
Given that I only gave away whole lollies, how many lollies did Rita and Sue each get?

6.



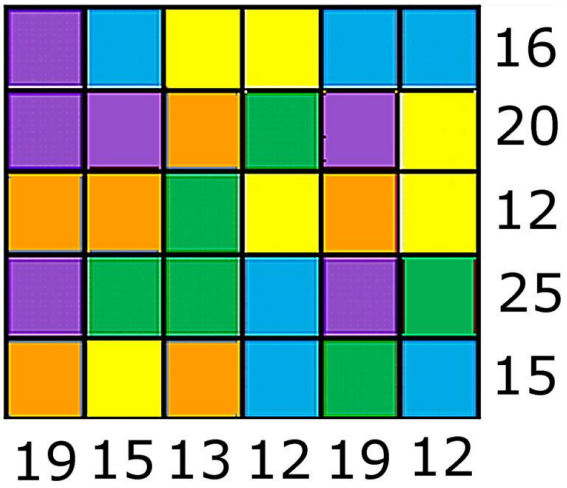
Three men, (Mister White, Mr Brown and Mr Green) are seated around a table. From the following clues can you give the full name of each man and the position in which he is sitting? All necessary information is supplied in the clues.

(a) Mr White is in position 3
(b) Fred is to the right of Bill
(c) Joe is to the left of Mr White
(d) They are celebrating Joe's engagement to Mr Green's sister.

7. Four people, (Alan, Beth, Colin and Denise) decided to jointly pledge the $8000 necessary to support a Panda at the Zoo for a year.
Alan pledged twice as much as Beth.
Colin pledged three times as much as Beth
Denise pledged the least, but it was enough to make up the difference.
One of them pledged $1200 dollars.
Can you work out how much each person pledged?

8. What number is thirty percent of five dozen?

9.



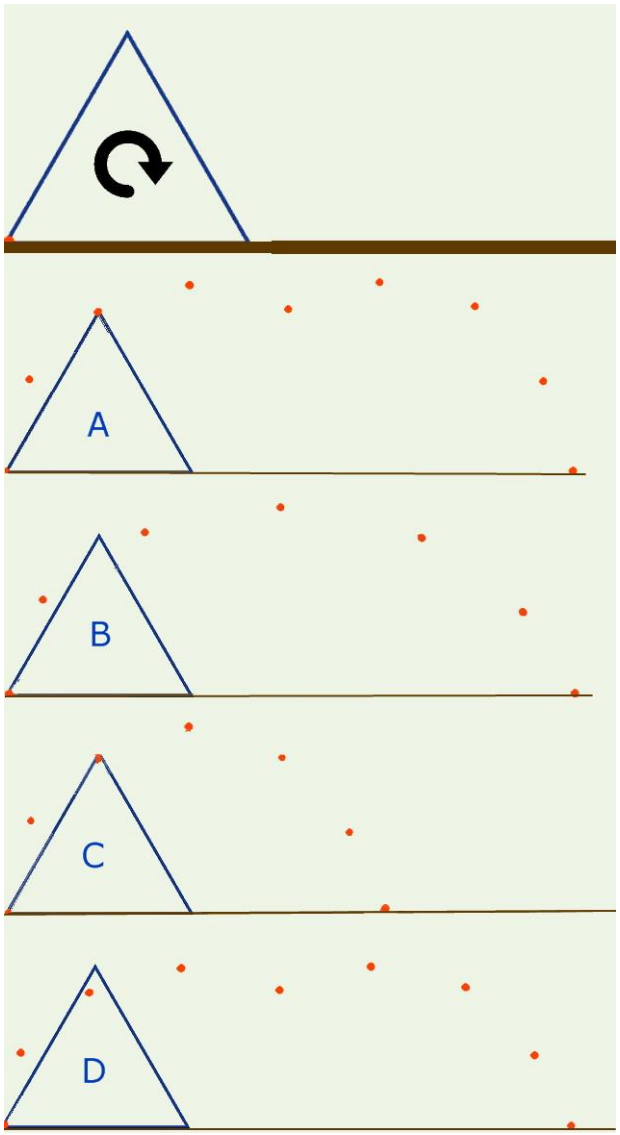
The picture on the left shows 30 coloured tiles laid out to form a rectangle.

There are five different colours of tile: purple, blue, yellow, orange and green.

Each colour tile has a different value. The values are 1,2,3,4 and 5.

The total value of each row and each column is shown.

10.



The diagram shows a triangular prism (e.g. a Toblerone chocolate bar) sitting on a bench viewed end on.

The bottom left hand corner is marked with a red dot.

The prism is then rolled across the bench without sliding until the red dot once again sits on the bottom left hand corner.

Which option best traces out the actual path taken by the red dot: A, B, C or D?

Solutions:

1. **87** (you're looking at the numbers upside down)
2. **2** (Consider the numbers as shapes; how many enclosed loops are there in each number? 1,2,3,5,7 – no loops; 0, 6 and 9 – 1 loop; 8 - 2 loops)
3. **True**
4. **45** The square root must end in 5.
40^2 is 1600 (too small).
50^2 is 2500 (too big)
Must be 45
5. Rita **12**, Sue **8**
6. Position 1: **Bill Green** Position 2: **Joe Brown** Position 3: **Fred White**
7. Beth $**1200**; Alan $**2400**; Colin $**3600**; Denise $**800**
8. **18**
9. Yellow = **1**, orange = **2**, blue = **3**, green = **4** and purple = **5**
10. Option **A**