

MindBenders 5

1. Give two numbers which when added together produce the same answer as when they are multiplied together.
2. All except two of my pets are dogs. All except two of my pets are rabbits. All except two of my pets are fish. How many pets must I have?
3. A square lawn has a path 1 metre wide which goes around the outside of all the four edges. The area of the path is 40 square metres. What is the area of the lawn?
4. Taking an exact number of strides I can walk 9.49 metres. What is the length of my stride?
5. Which is bigger - half a square metre or a half metre square?
6. When my age is divided by 2, 3, 4 or 6 there is always a remainder of 1, but when divided by 7 there is no remainder. How old am I?
7. Work out the value of 99066 squared and comment on an unusual property of the answer.
8. There are 36 inches in a yard and 39.37 inches in a metre. Which is cheaper - 92p a yard or £1 a metre?
9. A boy sold his bicycle for £30. He later bought it back again for £25. The next time he sold it for £40. How much did he make overall?
10. A square has all its edge lengths increased by 3cm. This makes a new square with twice the area of the old one. What was the area of the old square?
11. How would you arrange 4 points so that each one was exactly the same distance from the other 3?
12. A cube with an edge length of 10cm is resting on a horizontal table. An insect starts crawling from the table at an angle of 30 degrees to the horizontal. How far will it have crawled on the cube by the time it gets to the top?
13. Five concentric circles are drawn. The area between any consecutive pair of circles is the same as the innermost circle which is 10 square cm. What is the radius of the outermost circle?
14. Which is bigger and by how much - the sum of all the **odd** numbers or the sum of all the **even** numbers from 1 to 100?

- 15.** If you multiply together all the factors of 100, how many zeros will there be on the end of the answer?
- 16.** On a very long straight road there are four villages: Allwood, Bentham, Corford and Dunbar, which are in that order. Corford is 6km from Allwood. Dunbar is 4km from Bentham. Corford is 1km nearer to Dunbar than it is to Bentham. How far is it from Allwood to Dunbar?
- 17.** One jogger goes uphill at 3 k.p.h., downhill at 6 k.p.h. and along the level at 4 k.p.h. One trip from home to a friend's house, and back again (without stopping) along the same route, took 6 hours. How far was it to the friend's house?
- 18.** Using five 1's it is possible to make them equal 100 by arranging them as:
 $111 - 11 = 100$
Use five 5's to make a 100.
- 19.** Believe it or not, but these numbers have been arranged in order
8 5 4 9 1 7 6 3 2 0
What rule was used to order them?
- 20.** Three times Lee's age in three years time, minus three times Lee's age three years ago, is equal to Lee's age now. How old is Lee?

MindBenders 5 – Solution

1. $2 + 2 = 2 \times 2$
2. Three. One of each.
3. 81 square metres.
4. 73cm or 0.73 metres.
13 (the other factor) would be ridiculous
5. Half a square metre.
6. 49