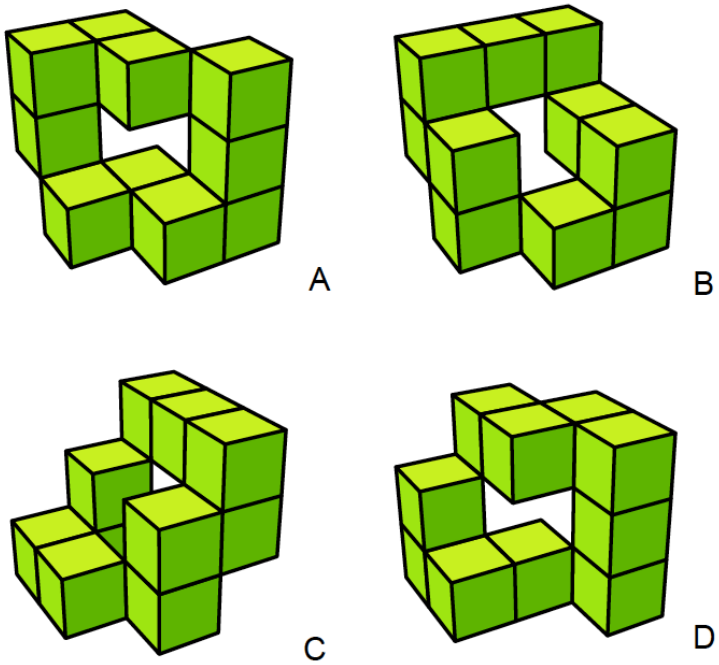
Mathematics Challenge

Issue 131

Dear students and parents, welcome to the Dulwich Mathematics Challenge. Test your brainpower, whatever your mathematical ability. If you would like to contribute a puzzle please email me at chris.stanley@dulwich-beijing.cn



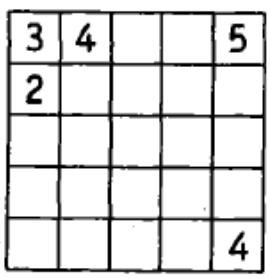
The ring consists of ten cubes. Three of the four pictures of the ring are correct. Which one is wrong?

Last week:

1. E
2. B
3. D
4. (13, 2, 5), (20, 8, 5), (15, 4, 3)
5. 44
6. 1.23

Junior Mathematical Challenge

1. The grid can be filled up using only the numbers 1, 2, 3, 4, 5 so that each number appears just once in each row, once in each column, and once in each diagonal. Which number goes in the centre square?

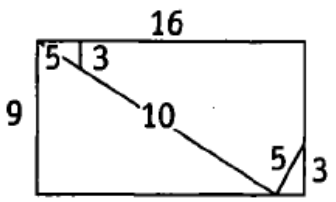


A 1 B 2 C 3 D 4 E 5

2. The names of the whole numbers from one to twelve are written down in the order in which they occur in a dictonary. What is the fourth number on the list?

A four B five C six D seven E nine

3. When a 16 by 9 rectangle is cut as shown here the pieces can be rearranged to make a square of perimeter?



A 32 B 36 C 40 D 48 E 51

JMC 1989

Junior Mathematical Olympiad

4. Find the value of x which fits the equation $x(x-4) + (x-1)(x+2) = 2x^2 + x + 1$.

5. How many numbers are there between 1 and 2014 (inclusive) which have an odd number of even digits?

June 2014 Mentoring

Intermediate Olympiad

6. Solve the equations

$$x + xy + x^2 = 9$$
$$y + xy + y^2 = -3$$

Maclaurin 2010