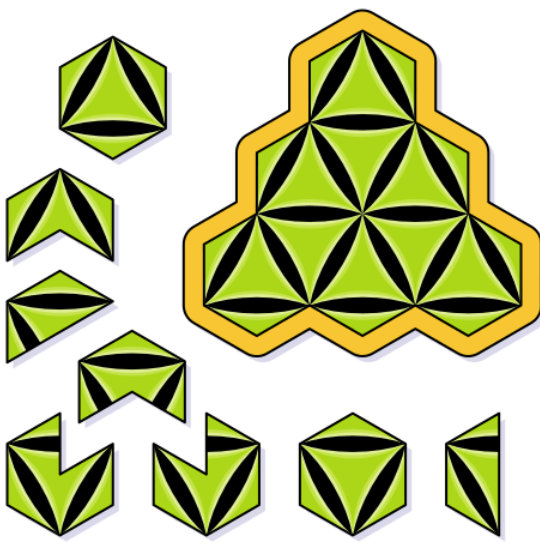




Mathematics Challenge

Issue 140

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



Using all eight tiles, assemble the shape with the triangular grid shown.

| Last week: | |
|------------|-----|
| 1. | E |
| 2. | D |
| 3. | E |
| 4. | 30° |
| 5. | 45 |
| 6. | E |

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Junior Mathematical Challenge

8. My computer screen displays up to eighty characters (letters, figures or spaces) on each line. If there is not enough room for a word or a number at the end of a line, the whole word is moved to start at the beginning of the next line. I type (in figures) the numbers from 1 to 100, with a space after each number. What is the last number to appear on the first line?

- A 26 B 27 C 28 D 29 E 30

10. In 'conker arithmetic' when a '3-er' plays a '4-er' only the winner survives and is then called an '8-er' (since $8 = 3 + 4 + 1$) If five '2-ers' play until only one is left what will the winner be?

- A 10-er B 11-er C 14-er D 15-er E 17-er

16. Piffing Pizzas sell pizzas with diameters 4 inches, 6 inches, 8 inches and 10 inches for £2, £4, £8 and £12 respectively. If the pizzas all have the same thickness, which size will give the most pizza per £1?

- A 4 inch B 6 inch C 8 inch D 10 inch E all the same

JMC 1993

Junior Mathematical Olympiad

A1. What is the largest prime factor of 1991?

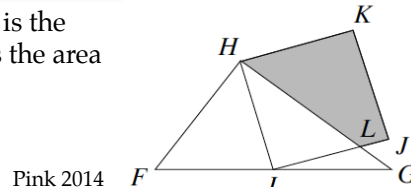
A8. The first two terms of a sequence are a and b. Each new term is obtained by dividing the previous term by the one before that. What is the eighth term in the sequence?

JMO 1991

Intermediate Olympiad

24. The diagram shows a triangle FHG with $FH = 6$, $GH = 8$ and $FG = 10$. The point I is the midpoint of FG, and HIJK is a square. The line segment IJ intersects GH at L. What is the area of the shaded quadrilateral HLJK?

- A $124/8$ B $125/8$ C $126/8$ D $127/8$ E $128/8$



Pink 2014