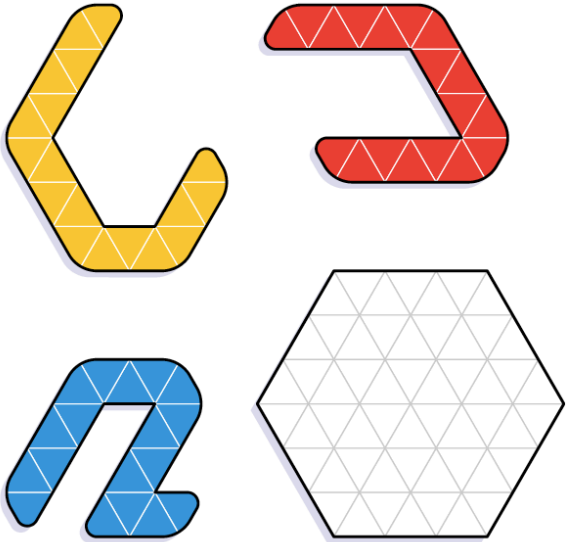




# Mathematics Challenge

## Issue 135

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](mailto:chris.stanley@dulwich-beijing.cn)



Place all three colour snakes within the bounds of the hexagonal white board,. You can rotate the snakes or flip them over, but not overlap.

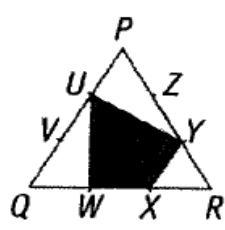
Last week:
1. A
2. C
3. B
4. 16
5. 8cm <sup>2</sup>
6. B

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## Junior Mathematical Challenge

1. PQR is an equilateral triangle. The points U, V, W, X, Y, Z trisect the sides. What is the ratio of the area of the shaded quadrilateral UWXY to the whole triangle PQR?

- A 4:9      B 5:9      C 2:5      D 4:5      E 1:2



2. Some sequences of words, like *Was it a car or a cat I saw?*, read the same both forwards and backwards. Which of these examples is not like that?

- A *'E daft sum must fade*      B *Push tame maths up*      C *Poor data droop*  
D *Times must sums emit*      E *Must he divide the sum?*

3. Gill has now started primary skool and is learning to spell. We got her to help by writing out this queschun for us. We gave her a score of 100 to start with and deducted 10% of her running total each time we found a word spelt rong. What was her final score?

- A 70      B 72.9      C 80      D 81      E 90

JMC 1993

## Junior Mathematical Olympiad

4. My children are all at school. The product of their ages is 60060. How many children have I got?

5. a) Which primes can be expressed as the difference of two squares?  
b) Which primes can be expressed as the difference of two squares in two (or more) different ways?

JMO 1992

## Intermediate Olympiad

6. A positive integer N is smaller than the sum of its three greatest divisors (naturally, excluding N itself). Which of the following statements is true?

- A All such N are divisible by 4.      B All such N are divisible by 5.      C All such N are divisible by 6.  
D All such N are divisible by 7.      E There is no such N.

Grey 2013