

I have a pint of orange juice. I drink half of it and then give it to you. You drink half of what's remaining, and then pass it back to me. I drink half of what's remaining and then give it to you. This process continues forever. How many pints did I drink in total?

This was a real Oxford interview question by the way.

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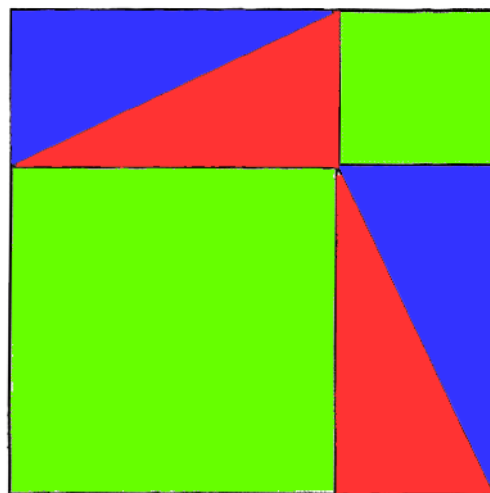
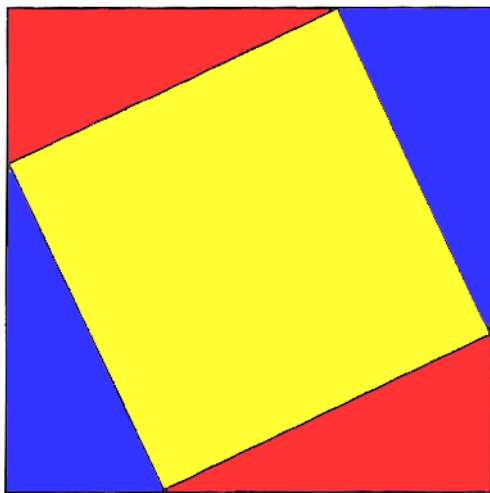
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The n^{th} term of the linear sequence 2 7 12 17 ... is $5n - 3$

A new sequence is formed by squaring each term of the linear sequence and adding 1.

Prove algebraically that **all** the terms in the new sequence are multiples of 5.

The n^{th} term of the linear sequence 2 7 12 17 ... is $5n - 3$

A new sequence is formed by squaring each term of the linear sequence and adding 1.

It is believed that all terms in the new sequence are even. Prove that this is not true.

True or false: All prime numbers are odd.

Simon Singh on Fermat's Last Theorem...

<https://www.youtube.com/watch?v=qiNcEguuFSA>