

Maths Challenge – Week 42

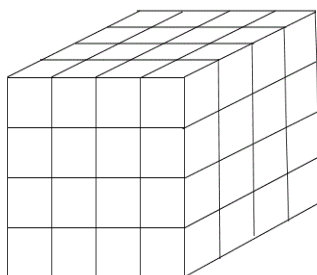
Welcome to week 42 of our weekly maths challenge, with problems and puzzles posed by Gordon Burgin, Andrew Holt and the [U3A Maths and Stats Subject Adviser](#) - David Martin.

If you would like to share your ideas on how to solve these puzzles please join our [learning forum](#) or discuss within your U3A and interest group. **Check back each week for the solutions** and let us know how you get on by contacting National Office. New maths puzzles will go up onto the website every Thursday.

Week Forty-two

Question 1.

The cube shown is made of small cubes of sides 2 cm. When the large cube is disassembled into its component small cubes, the total surface area of all the small cubes is how many times greater than the surface area of the large cube?



Question 2.

The square of a positive real number is twice the size of the cube of that number. What is the number?

Question 3.

Zoe began gardening at 10:20am. She spent twice as much time clipping the hedge as mowing the lawn and ten minutes more time weeding than hedge clipping. She finished at ten minutes after noon. How long did Zoe spend on each task?

Question 4.

Show that for any ten consecutive positive integers at least one is coprime (no common factors other than 1) to the product of the others.