

Maths Challenge - Week 294 – Problems

Welcome to week 294 of our weekly maths challenge, with problems and puzzles posed by David Browning, Rod Marshall, Ian Stewart, Annie Stothers 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 the [u3a office](#). New maths puzzles will go up onto the website every Thursday.

Question 1.

Jane has a bag of sweets. She gives one third of them to Simon and she gives five to Anne. She then eats one and gives one quarter of her remaining sweets to Paul. If Jane now has six sweets, how many sweets did she originally have?

Question 2.

Ian, Jane and Kevin played each other at chess. Ian won half of the games and if Kevin had won, rather than lost, one of his games against Ian, they would all have won a third of the games. How many games did they play?

Question 3.

Two whole numbers x and y satisfy this equation:

$$x^2 - y^2 + 2(x + 2y) = 2026$$

Given that neither x nor y is prime, find x and y .

Question 4.

The sum of five different whole numbers is 200, the sum of the squares of the five numbers is 8314 and the difference between the largest and smallest numbers is 19. If two of the five numbers are square numbers, what are the five numbers?