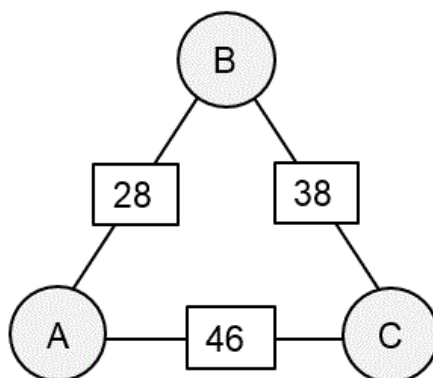**Maths Challenge – Week 22**

Welcome to week 22 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.
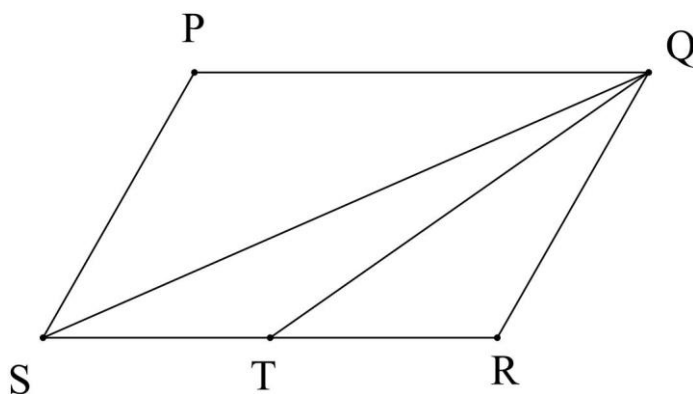
Question 1.

In the below Arithmagon the numbers that appear in the boxes are the sum of the numbers in the circles on each side of them. Find the numbers that belong in each circle.

Question 2.

$PQRS$ is a parallelogram and T is the midpoint of SR. What is the ratio of the area of triangle QST to the area of the parallelogram?

Question 3.

A die is rolled twice. What is the probability that the second throw is higher than the first?

Question 4.

How many integers between 0 and 1,000,000 do not contain any of the digits 0, 1, 2, 3, 4, 5, or 6?