Maths Challenge – Week 37

Welcome to week 37 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.

Problems

Week Thirty-seven

Question 1.

An online bookstore sells novels and magazines. Each novel sells for £4, and each magazine sells for £1. If Fiona purchased a total of 11 novels and magazines that have a combined selling price of £20, how many novels did she purchase?

Question 2.

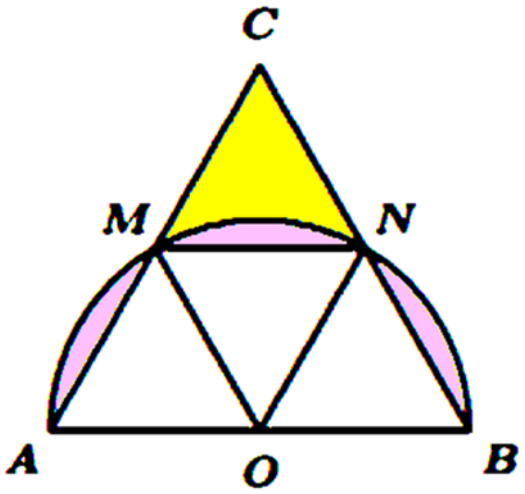
The mean score of 8 players in a basketball game was 14.5 points. If the highest individual score is removed, the mean score of the remaining 7 players becomes 12 points. What was the highest score?

Question 3.

What is the smallest positive integer value of n for which $(2^2 – 1)(3^2 – 1)$ …….. $(n^2 -1)$ is a perfect square?

Question 4.

A semicircle has diameter AB. The equilateral triangle ABC is drawn on the same side of AB as the semicircle.



Determine the area that lies inside the triangle CMN and outside the semi-circle.