

**Mathematics Problems for week forty-nine [www.u3a.org.uk](http://www.u3a.org.uk) posed by  
Gordon Burgin, Andrew Holt, Rod Marshall, Ian Stewart and David Martin**

**Week Forty-nine**

**Question 1.**

A square lawn is reduced in area by 50% by digging up some of the lawn for flowers. This created a new 1m wide border on each of the four sides and a 2m-by-2m centre plot. What was the original size of the lawn?

**Question 2.**

Sajid travels 15 miles at 30 mpg and a further 60 miles at 40 mpg. What was Sajid's average mpg?

**Question 3.**

Adam and Eve are teenagers. Adam is 50% older than Eve was when Adam was the same age as Eve is now. What are their ages?

**Question 4.**

The positive integer  $N$  has five digits. The six-digit integer  $P$  is formed by appending 2 to the front of  $N$ . The six-digit integer  $Q$  is formed by appending 2 to the end of  $N$ . Given that  $Q = 3P$ , what are the possible values of  $N$ ?