

Contributed by P. Diacono of St. Joseph's College

a	b	c			d	e	f
g					h		
i			j	k		l	
m		n				o	
p					q		
r				s			
t						u	
v							

ACROSS

DOWN

- (a) The cube of (g) across.
  - (g) The digits form an arithmetic progression.
  - (h) Divisible by 7.
  - (i) The sum of a square and a positive cube.
  - (j) A perfect number (The number is half the sum of all its factors.)
  - (l) Has a factor in common with (j) across.
  - (m) The digits form an arithmetic progression.
  - (o) The product of two prime numbers.
  - (p) The number formed by the first two digits divides the number formed by the last two digits.
  - (q) The product of (u) across and one of its factors.
  - (r) The digits of (n) down in a different order.
  - (s) The cube of (t) across.
  - (t) Divisible by 11.
  - (u) A perfect cube.
  - (v)  $\frac{1}{3} \times$  (n) down written to base 2.
- (a) Divisible by 11.
  - (b) Every second digit is the same as the one before it (e.g. 6th digit = 5th digit).
  - (c) A prime number.
  - (d) A perfect square.
  - (e) Each digit is greater than the next one below it.
  - (f) The number formed by the first four digits is the same as the number formed by the last four digits.
  - (j) A multiple of (k) down.
  - (k) A multiple of 12.
  - (n) Different digits with a common factor other than 1.
  - (q) A prime number.

NOTES:

- (1) 0 may begin a list of digits, but not a number (e.g.  $3^2 = 09$ ).
- (2) An arithmetic progression is a set of digits  $a, b, c, d, \dots$  such that  $b - a = c - b = d - c = \dots$