Using only the arithmetical operations of subtraction, \((x - y)\), and division, \((\frac{x}{y})\); the numbers 1, 3 and 7; and parentheses for grouping create an expression that equals 21.

Suppose the only bills denominations available are $5 and $9, what is the largest purchase price that cannot be purchased with exact change?

What number logically comes next in the series 4, 5, 14, 15, 40, 41, __?

Find the sum of all the numbers between 1 and 99 whose digits contain at least one 3.

How many 2 digit numbers are divisible by 3?

How many factors of 2 are in 100!?

Simplify \((x + 1)^5 - 5(x + 1)^4 + 10(x + 1)^3 - 10(x + 1)^2 + 5(x + 1) - 1\).

Determine the unit digit of \(17^{2016}\).

How many triangles are formed in the figure below?

Let \(D(m)\) denote the greatest prime factor of a positive integer \(m\). For how many positive integers \(n\) is it true that \(D(n) = \sqrt{n}\) and \(D(n + 16) = \sqrt{n + 16}\)?