Answer on Question #80016 – Math – Calculus

Question

In the arithmetic series 2/3+1+4/3..., which term is 25 1/3?

Solution

$a_1 = \frac{2}{3}, \ d = 1 - \frac{2}{3} = \frac{1}{3}.$

$a_n = a_1 + (n-1)d = \frac{2}{3} + (n-1) \cdot \frac{1}{3}.$

So, $25\frac{1}{3} = \frac{2}{3} + (n-1) \cdot \frac{1}{3}.$

Thus, $n = \left(25\frac{1}{3} - \frac{2}{3}\right) \cdot 3 + 1 = 75.$

$a_{75} = 25\frac{1}{3}$, in other words, the 75th term is 25 1/3.

Answer: a_{75} .