Q1. A function f is defined for all positive integers $f(1) = 2015$

And $f(1) + f(2) + \ldots + f(n) = n^2 f(n)$ for $n > 1$

(Calculate $f(2015)$)

Q2. Find the first positive integer whose square ends in three 4s.

Q3. Sketch the graph of $y = \dfrac{x^2 + 1}{x + 1}$

Q4. Prove that $n^5 - n$ is divisible by 30.

Q5. $2x^4 - 11x^3 + 16x^2 - 11x + 2 = 0$

What are the values of $x + \dfrac{1}{x}$?