

The solution to the problem should start in this page.

1.– Find the 4 first terms of the MacLaurin expansion for $f(x) = \arctan x^2$.

2.– Let f be defined as:

$$f(x) = \begin{cases} \frac{3-x^2}{2}, & x \leq 1 \\ \frac{1}{x}, & x > 1 \end{cases}$$

a) Graph $f(x)$ on the interval $[0,2]$.

b) Prove that f satisfies the conditions of Lagrange's Theorem on $[0,2]$ and obtain all the possible mean values given by the theorem.
