

Quiz 10 - **No work = No marks** (50 min)**Exercise 1: (10 points)**

- a) Find the Maclaurin Series for $f(x) = (1 + x)^k$, where k is a real number
b) The series you found in part a is called the ***binominal series***, with coefficients called: Binomical coefficients.

If $\frac{k(k-1)(k-2)\dots(k-n+1)}{n!} = \binom{k}{n}$, then rewrite your result from part a using this new notation.

- c) Use your result from part b to find the Maclaurin series for the function $f(x) = \frac{1}{\sqrt{4-x}}$

Exercise 2: (10 points)

Find a power series representation of $f(x) = \frac{x^2}{(x-2)^3}$ and the radius of convergence

Answers: