Consider the function $\boxed{f(x) = \frac{1}{x}}$

1). Find a power series representation of the form
$$f(x) = \sum_{n=0}^{\infty} C_n (x-2)^n$$
by using the <u>geometric series</u>. (+ Interval of conv.)

<u>Hint</u>: Write f as: $f(x) = \frac{1}{x} = \frac{1}{2 + (x-2)}$

2). Now use Taylor series formula
$$f(x) = \sum_{n=0}^{\infty} \frac{f^{(n)}(a)}{n!} (x-a)^n$$

to obtain the Taylor series of $f(x) = \frac{1}{x}$ about <u>$x=2$</u>.