

So

$$f(x) = \frac{3}{1-2x}$$

$$x_0 = 1$$

$$\sum_{k=0}^{\infty} a_k (x-1)^k$$

$$t = x - 1$$

$$x = t + 1$$

$$\frac{3}{1-2x} = \frac{3}{1-2(t+1)} = \frac{3}{-1-2t} = \frac{\overset{a_1}{-3}}{1+2t}$$

$-2t = g$
 $g = -2(x-1)$