Used to solve equations of the form $f(x)=0$, where $f(x)$ is differentiable

1 - Start with initial guess x_i

2 - Find tangent line to f at x_i

3 - $x_{i+1} = x_i - \frac{f(x_i)}{f'(x_i)}$

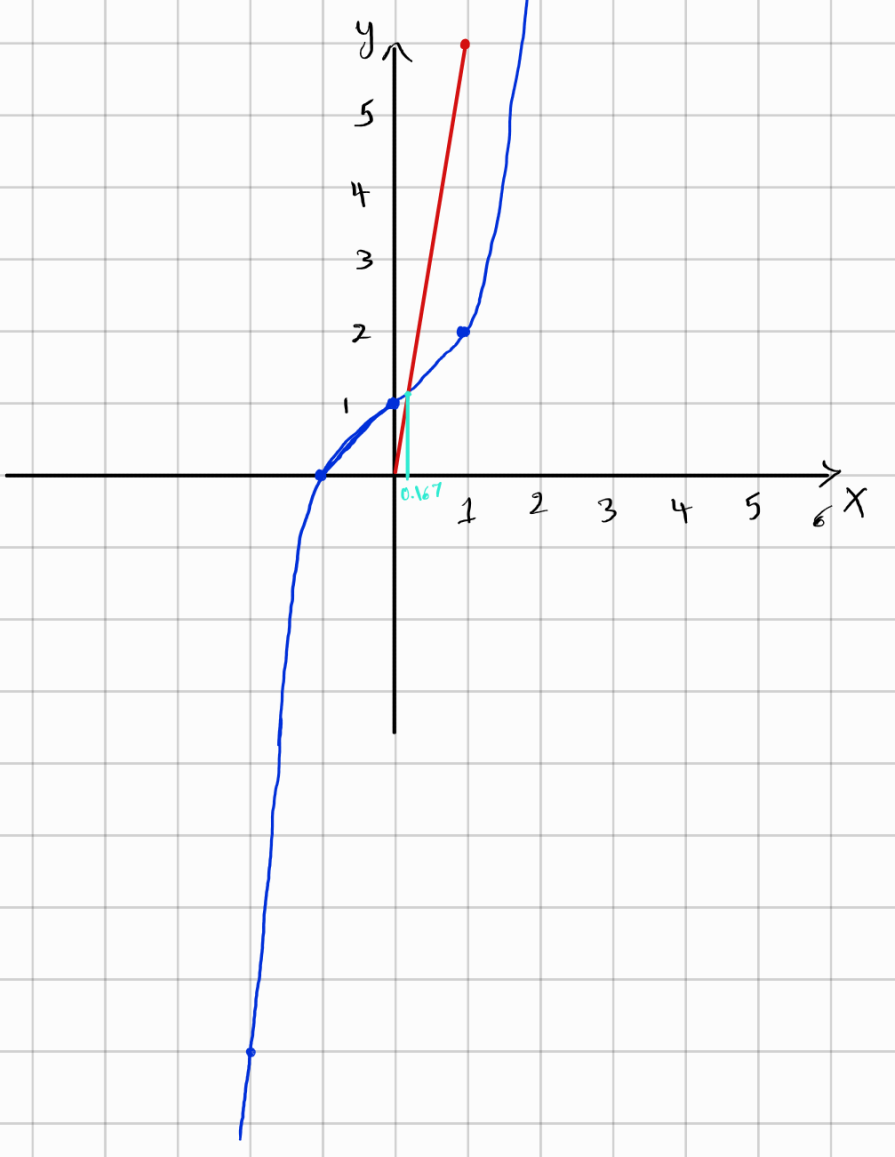
4 - Repeat until the solution is accurate enough.

Example $x^3+1=6x$

$$f(x) = x^3 - 6x + 1 = 0$$

$$f'(x) = 3x^2 - 6$$

to guess x_i,
we could draw a graph of x^3+1, & $6x$



i	x_i	$f(x_i)$	$f'(x_i)$	$f(x_i)/f'(x_i)$
1	0.167	0.00265	-5.91633	-0.00045
2	0.167449174006938	$1.0471025677 \times 10^{-7}$	-5.91555232 23732	$-1.7710159536 \times 10^{-8}$
3	0.167449311085353 15	$1.1102230246251563 \times 10^{-16}$	-5.91555230519 1252	$-1.8766826630176765 \times 10^{-17}$
4				
5				

Euler's Method :-