## **Introducing Taylor Series**

Can we get the answer from some basic mathematics.

1. Our aim is
   1. w ⇒ w + η𝚫w
   2. Loss(w) > Loss(w + η𝚫w)
2. Taylor Series:
3. Here, f(x + 𝚫x) is Loss(w + η𝚫w) and f(x) is Loss(w)
4. We need to find 𝚫x such that everything after f(x) sums to a negative value, ie, lowering the overall value of f(x + 𝚫x)