**DERIVATION OF THE LIMIT USED**

Here we will provide a formal proof for ,

f’(x)==

We know that,

f’(x)== (2.a)

&

f’(x)== (2.b)

Adding equations (2.a) & (2.b) & dividing by 2,

We get,

f’(x)=== (2.c)

Although equations (2.a) & (2.b) work fine with any small approximation of h(h10-5),

Actually equation (2.c) provides more accurate values of f’(x).

Hence we usae this quation for our approximation of f’(x).