

**Sheet1****Sheet2**

| x   | y         | h   |
|-----|-----------|-----|
| 0   | 1         | 0.1 |
| 0.1 | 0.9       |     |
| 0.2 | 0.83      |     |
| 0.3 | 0.787     |     |
| 0.4 | 0.7683    |     |
| 0.5 | 0.77147   |     |
| 0.6 | 0.794323  |     |
| 0.7 | 0.8348907 |     |
| 0.8 | 0.8914016 |     |
| 0.9 | 0.9622615 |     |
| 1   | 1.0460353 |     |
| 1.1 | 1.1414318 |     |
| 1.2 | 1.2472886 |     |
| 1.3 | 1.3625597 |     |
| 1.4 | 1.4863038 |     |
| 1.5 | 1.6176734 |     |

```
% newton raphson.
commandwindow
clear
clc
close all
syms x
f= (9.81*68.1/x)*(1-exp(-(10/68.1)*x))- 40
ff= diff(f)
x=13
for i= 1:15
    iter(i+1)= i;
    xf(i)=x;
    x=double(subs(x- f/ff));
    xf(i+1)=x;
    ea(i+1)= abs((xf(i+1) - xf(i))/xf(i+1)) *100;
    if ea(i+1)<=1E-9;
        break
    end
end
[iter,xf,ea]
```



```
% Fixed point iteration
commandwindow
clear
clc
close all
format short g
v=13
c=68.1 * 9.81
d= 10/68.1
for i= 1:20
    iter(i+1)=i;
    v(i+1)=(c/40)*(1- exp(-d*v(i)))
    ea(i+1)= abs((v(i+1) - v(i))/v(i+1)) *100
    if ea(i+1)<= 1E-11
        break
    end
end
end
[iter',v',ea']
```