

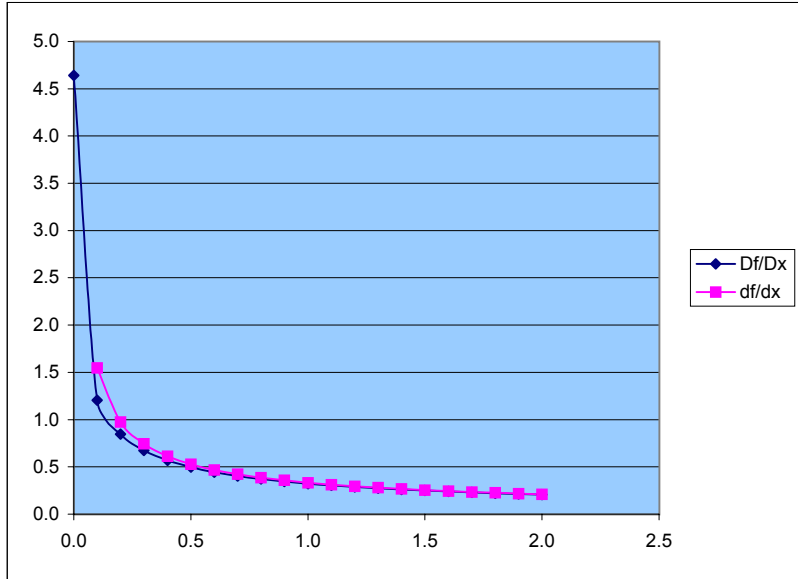
Ques 1. a. $f(x) = (2x+1)^2$, $f'(x) = 4(2x+1)$ b. $f(x) = (2x+1)^{1/2}$, $f'(x) = 1/(2(2x+1)^{1/2})$ c. $f(x) = x^3$, $f'(x) = 3x^2$ d. $f(x) = x^{1/3}$, $f'(x) = 1/(3x^{2/3}) = 1/3 x^{-2/3}$

Ques 2a.

$f(2) = 0.210$

Ques 2b, 3a. $f(x) = x^{1/3}$, $Df/Dx = ((x+h)^{1/3} - x^{1/3})/h$, $f'(x) = 1/(3x^{2/3})$

x	Df/Dx	df/dx
0.0	4.6	#DIV/0!
0.1	1.2	1.5
0.2	0.8	1.0
0.3	0.7	0.7
0.4	0.6	0.6
0.5	0.5	0.5
0.6	0.4	0.5
0.7	0.4	0.4
0.8	0.4	0.4
0.9	0.3	0.4
1.0	0.3	0.3
1.1	0.3	0.3
1.2	0.3	0.3
1.3	0.3	0.3
1.4	0.3	0.3
1.5	0.2	0.3
1.6	0.2	0.2
1.7	0.2	0.2
1.8	0.2	0.2
1.9	0.2	0.2
2.0	0.2	0.2



Ques 4.

t days	f(t) flies	f'(t) fly/day
0	2	1.2
5	8	2.4
10	20	5.0
15	45	11.0
20	100	16.0
25	180	16.0
30	260	10.0
35	310	4.0
40	330	2.0
45	340	1.0
50	345	

