

1) $\frac{dy}{dx} = x - 1$ (1, 2) $\Delta x = 0.1$

x	y	$\frac{dy}{dx}$	Δx	Δy	$y + \Delta y$
1	2	0	0.1	0	2
1.1	2	0.1	0.1	0.01	2.01
1.2	2.01	0.2	0.1	0.02	2.03
1.3	2.03				

$y(1.3) \approx 2.03$

2) $\frac{dy}{dx} = 2x - y$ (1, 0)

x	y	$\frac{dy}{dx}$	Δx	Δy	$y + \Delta y$
1	0	2	0.1	0.2	0.2
1.1	0.2	2	0.1	0.2	0.4
1.2	0.4	2	0.1	0.2	0.6
1.3	0.6				

$y(1.3) \approx 0.6$

3) $\frac{dy}{dx} = 2 - x$ (2, 1)

x	y	$\frac{dy}{dx}$	Δx	Δy	$y + \Delta y$
2	1	0	-0.1	0	1
1.9	1	0.1	-0.1	-0.01	-1.01
1.8	-1.01	0.2	-0.1	-0.02	-1.03
1.7	-1.03				

$y(1.7) \approx -1.03$

4) $\frac{dy}{dx} = x - y$ (2, 2)

x	y	$\frac{dy}{dx}$	Δx	Δy	$y + \Delta y$
2	2	0	-0.1	0	2
1.9	2	-0.1	-0.1	0.01	2.01
1.8	2.01	-0.2	-0.1	0.02	2.03
1.7	2.03				

$y(1.7) \approx 2.03$

5) $\frac{dy}{dx} = x - 2$ $y(0) = 5$

x	y	$\frac{dy}{dx}$	Δx	Δy	$y + \Delta y$
0	5	-2	0.4	-0.8	4.2
0.4	4.2	-1.6	0.4	-0.64	3.56
0.8	3.56				

$y(0.8) \approx 3.56$

6) $\frac{dy}{dx} = 2x - y$ $(2, 3)$

x	y	$\frac{dy}{dx}$	Δx	Δy	$y + \Delta y$
2	3	1	-0.1	-0.1	2.9
1.9	2.9	0.9	-0.1	-0.09	2.81
1.8	2.81	0.79	-0.1	-0.079	2.731
1.7	2.731	0.669	-0.1	-0.0669	2.6641
1.6	2.6641	0.5359	-0.1	-0.05359	2.61051
1.5	2.61051				

$y(1.5) \approx 2.61051$

7)

x	y	$\frac{dy}{dx}$	Δx	Δy	$y + \Delta y$
3	2	0.4	-0.2	-0.08	1.92
2.8	1.92	0.7	-0.2	-0.14	1.78
2.6	1.78				

$f(2.6) \approx 1.78$