

② $y' = \cos 2\pi x, y(0) = 1$

Use Euler's Method with 5 steps to approximate $y(1)$ with $\Delta x = .2$

x	y	$\frac{dy}{dx}$
0	1	1
.2	1.2	$\cos(2\pi(.2))$
.4	1.262	$\cos(2\pi(.4))$
.6	1.100	$\cos(2\pi(.6))$
.8	.9382	$\cos(2\pi(.8))$
1	1	

$y = .2(1) + 1$
 $y = .2(\cos(2\pi(.2)) + 1.2)$
 $y = .2(\cos(2\pi(.4)) + 1.262)$
 $y = .2(\cos(2\pi(.6)) + 1.100)$
 $y = .2(\cos(2\pi(.8)) + .9382)$

③ $\frac{dy}{dx} = \frac{x}{2} + \frac{y}{5}$ and $f(2) = 0$.

Estimate $f(3)$ if $\Delta x = 0.5$

x	y	$\frac{dy}{dx}$
2	0	1
2.5	.5	1.35
3	1.175	

$y = .5(1) + 0$
 $y = .5(1.35) + .5$