15. $f''(x) = \cos x$ $\quad f'(0) = 1$ $\quad f(0) = 4$

$x = 0$, $f'(x) = 1$ $\quad$ $x = 0$, $f(x) = 4$

$f'(x) = \int f''(x)$

$= \int \cos x \, dx$

$f'(x) = \sin x + C$

$1 = \sin 0 + C$

$1 = C$

$\rightarrow f'(x) = \sin x + 1$

$f(x) = \int f'(x)$

$= \int (\sin x + 1) \, dx$

$f(x) = -\cos x + 1x + C$

$4 = -\cos 0 + 0 + C$

$4 = -1 + C$

$5 = C$

$\rightarrow$ $f(x) = -\cos x + x + 5$