Formula Page

- $ax^2 + bx + c = 0 \Rightarrow x = \dfrac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
- $\dfrac{d}{dx}\left(cf(x)\right) = cf'(x)$
- $\dfrac{d}{dx}\left(f(x) \pm g(x)\right) = f'(x) \pm g'(x)$
- $\dfrac{d}{dx}\left(f(x) \cdot g(x)\right) = f'(x)g(x) + f(x)g'(x)$
- $\dfrac{d}{dx}\left(\dfrac{f(x)}{g(x)}\right) = \dfrac{f'(x)g(x) - f(x)g'(x)}{(g(x))^2}$
- $\dfrac{d}{dx}f(g(x)) = f'(g(x)) \cdot g'(x)$
- $\dfrac{d}{dx}(c) = 0$, if c is a constant
- $\dfrac{d}{dx}\left(x^n\right) = nx^{n-1}$
- $\dfrac{d}{dx}\left(a^x\right) = a^x \cdot \ln(a)$
- $\dfrac{d}{dx}\left(e^x\right) = e^x$
- $\dfrac{d}{dx}\left(e^{kx}\right) = k \cdot e^{kx}$, if k is a constant
- $\dfrac{d}{dx}\left(\sin(x)\right) = \cos(x)$
- $\dfrac{d}{dx}\left(\cos(x)\right) = -\sin(x)$
- $\displaystyle\int k\,dx = kx + C$, if k is a constant
- $\displaystyle\int x^n\,dx = \frac{x^{n+1}}{n+1} + C$, when $n \neq -1$
- $\displaystyle\int a^x\,dx = \frac{a^x}{\ln(a)} + C$
- $\displaystyle\int e^x\,dx = e^x + C$
- $\displaystyle\int \sin(x)\,dx = -\cos(x) + C$
- $\displaystyle\int \cos(x)\,dx = \sin(x) + C$
- $\displaystyle\int \frac{1}{x}\,dx = \ln(|x|) + C$
- $\displaystyle\int k\,dx = kx + C$, if k is a constant
- $\displaystyle\int c\,f(x)\,dx = c\int f(x)\,dx$, if c is a constant
- $\displaystyle\int f(x) \pm g(x)\,dx = \int f(x)\,dx \pm \int g(x)\,dx$