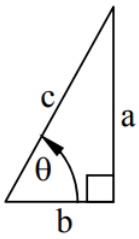
14.5: Frequently Used Trigonometric and Calculus Expressions



$$\sin\theta = a/c$$

$$\cos\theta = b/c$$

$$\tan\theta = a/b$$

$$a^2 + b^2 = c^2 \sin^2\theta + \cos^2\theta = 1$$

$$e^{j\theta} = \cos\theta + j\sin\theta$$

$$(d/d\theta)\sin\theta = \cos\theta$$

$$(d/d\theta)\cos\theta = -\sin\theta$$

$$(d/dx)e^{f(x)} = [df(x)/dx]e^{f(x)}$$

$$a^x = \left(e^{\ln a}\right)^x$$

$$(d/dx)x^n = nx^{n-1}$$

$$(d/dx)AB = A(dB/dx) + B(dA/dx)$$

$$(d/dx)f_1\left[f_2(\theta)\right] = \left[df_1/df_2\right]\left[df_2(\theta)/d\theta\right]d\theta/dx$$

$$(d/dx)\sin[f(\theta)] = \cos[f(\theta)][df(\theta)/d\theta]d\theta/dx$$

$$\int \sin\theta d\theta = -\cos\theta$$

$$\int \cos\theta d\theta = \sin\theta$$

$$\int e^{ax}dx = e^{ax}/a$$

$$\int x^n dx = x^{n+1}/(n+1)$$