Ordinary trig functions

$$\frac{\mathrm{d}}{\mathrm{d}x}\sin x = \cos x$$
$$\frac{\mathrm{d}}{\mathrm{d}x}\cos x = -\sin x$$
$$\frac{\mathrm{d}}{\mathrm{d}x}\tan x = \sec^2 x$$
$$\frac{\mathrm{d}}{\mathrm{d}x}\sec x = \sec x \tan x$$
$$\frac{\mathrm{d}}{\mathrm{d}x}\csc x = -\csc x \cot x$$
$$\frac{\mathrm{d}}{\mathrm{d}x}\cot x = -\csc^2 x$$

Hyperbolic trig functions

$$\frac{\mathrm{d}}{\mathrm{d}x}\sinh x = \cosh x$$
$$\frac{\mathrm{d}}{\mathrm{d}x}\cosh x = \sinh x$$
$$\frac{\mathrm{d}}{\mathrm{d}x}\tanh x = \operatorname{sech}^2 x$$
$$\frac{\mathrm{d}}{\mathrm{d}x}\operatorname{sech} x = -\operatorname{sech} x \tanh x$$
$$\frac{\mathrm{d}}{\mathrm{d}x}\operatorname{csch} x = -\operatorname{csch} x \coth x$$
$$\frac{\mathrm{d}}{\mathrm{d}x}\coth x = -\operatorname{csch}^2 x$$

Inverse trig functions

$$\frac{\mathrm{d}}{\mathrm{d}x}\sin^{-1} x = \frac{1}{\sqrt{1-x^2}}$$
$$\frac{\mathrm{d}}{\mathrm{d}x}\cos^{-1} x = -\frac{1}{\sqrt{1-x^2}}$$
$$\frac{\mathrm{d}}{\mathrm{d}x}\tan^{-1} x = \frac{1}{1+x^2}$$
$$\frac{\mathrm{d}}{\mathrm{d}x}\sec^{-1} x = \frac{1}{|x|\sqrt{x^2-1}}$$
$$\frac{\mathrm{d}}{\mathrm{d}x}\csc^{-1} x = -\frac{1}{|x|\sqrt{x^2-1}}$$
$$\frac{\mathrm{d}}{\mathrm{d}x}\cot^{-1} x = -\frac{1}{1+x^2}$$

Inverse hyperbolic trig functions

$$\frac{\mathrm{d}}{\mathrm{d}x}\sinh^{-1} x = \frac{1}{\sqrt{1+x^2}}$$
$$\frac{\mathrm{d}}{\mathrm{d}x}\cosh^{-1} x = \frac{1}{\sqrt{x^2-1}}$$
$$\frac{\mathrm{d}}{\mathrm{d}x}\tanh^{-1} x = \frac{1}{1-x^2}$$
$$\frac{\mathrm{d}}{\mathrm{d}x}\operatorname{sech}^{-1} x = \frac{1}{x\sqrt{1-x^2}}$$
$$\frac{\mathrm{d}}{\mathrm{d}x}\operatorname{csch}^{-1} x = -\frac{1}{|x|\sqrt{1+x^2}}$$
$$\frac{\mathrm{d}}{\mathrm{d}x}\coth^{-1} x = \frac{1}{1-x^2}$$