Integration by parts formula:

$$\int u\,dv = uv - \int v\,du$$

Trigonometric identities:

$$\begin{aligned}
\cos^2(x) + \sin^2(x) &= 1 \\
\sec^2(x) - \tan^2(x) &= 1 \\
\sin(2x) &= 2\sin(x)\cos(x) \\
\cos^2(x) &= \frac{1+\cos(2x)}{2} \\
\sin^2(x) &= \frac{1-\cos(2x)}{2}
\end{aligned}$$

Derivatives of trig functions.

$$\begin{array}{lll}
\dfrac{d\sin x}{dx} = \cos x & \dfrac{d\tan x}{dx} = \sec^2 x & \dfrac{d\sec x}{dx} = \sec x\tan x \\
\dfrac{d\cos x}{dx} = -\sin x & \dfrac{d\cot x}{dx} = -\csc^2 x & \dfrac{d\csc x}{dx} = -\csc x\cot x
\end{array}$$