$$\int \frac{1}{\sqrt{1 - x^2}}\, dx$$

Solution

Using the derivative rule

$$\frac{d}{dx}[\sin^{-1}(x)] = \frac{1}{\sqrt{1 - x^2}}$$

we get

$$\int \frac{1}{\sqrt{1 - x^2}}\, dx = \sin^{-1}(x) + C.$$