The integral of the sine of x is the negative of the cosine of x: $\int \sin x \, dx = -\cos x$. This is an inline-math test (\$\\$\ldots\ldots\\$): $\int \sin x \, dx = -\cos x$. This is a display-math test (\$\\$\ldots\ldots\\$):

$$\int \sin x \, dx = -\cos x.$$