

Trigonometric waves can model real life situations from the hours of sunlight to audio signals.

The integral of $\sin x$ is $-\cos x + c$, and the integral of $\cos x$ is $\sin x + c$.

Integrate $3\sin x - \frac{1}{2}\cos x$ dx.

$\sin x$ integrates to become $-\cos x + c$, so $3\sin x$ becomes $-3\cos x + c$.

$\cos x$ integrates to be $\sin x + c$, so $\frac{1}{2}\cos x$ becomes $\frac{1}{2}\sin x + c$.

The integrated function then becomes $-3\cos x + \frac{1}{2}\sin x + c$.

Remember, the integrals are given on the formula sheet and use $+ c$ for the constant when no values for the integral are given.