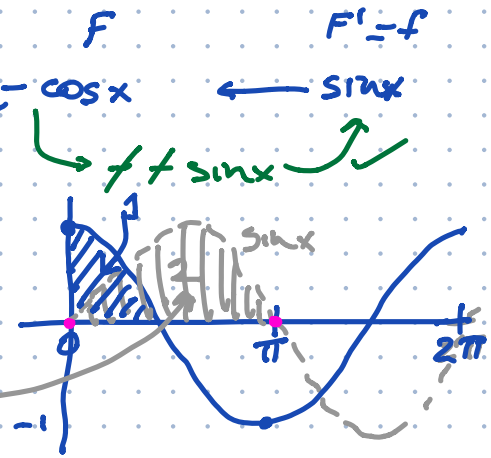


Examples with $\sin x$

$$\begin{aligned}
 \int_0^{\pi} \sin x \, dx &= F(\pi) - F(0) \\
 &= -\cos \pi - (-\cos 0) \\
 &= -\cos \pi + \cos 0 \\
 &= -(-1) + 1 \\
 &= 1 + 1 \\
 &= 2
 \end{aligned}$$



$$\begin{aligned}
 \int_0^{\pi} \cos x \, dx &= F(\pi) - F(0) \\
 &= \sin \pi - \sin 0 \\
 &= 0 - 0 \\
 &= 0 \text{ Net area}
 \end{aligned}$$

