

- Antiderivative
- Family of Antiderivatives
- Sketching f given f' : behavior of f when $f' > 0$, f' is increasing, etc.
- Using the Fundamental Theorem to find actual values of $f(x)$ given $f'(x)$

1. Use your calculator to find a graph of $f(x) = 4xe^{-x} - 1$ for $0 \leq x \leq 5$ and $-1 \leq y \leq 1$. Sketch an antiderivative of $f(x)$ that has $f(0) = 2$.

2. Suppose that $F'(x)$ is given by the following table. Estimate $F(b)$ at $b = \frac{1}{2}, 1, \frac{3}{2}, 2, \frac{5}{2}$, and 3. Use these to sketch $F(x)$ for $0 \leq x \leq 3$.

x	0	0.5	1	1.5	2	2.5	3
$F'(x)$	-2	-1.5	-0.25	1	1.5	1	-1