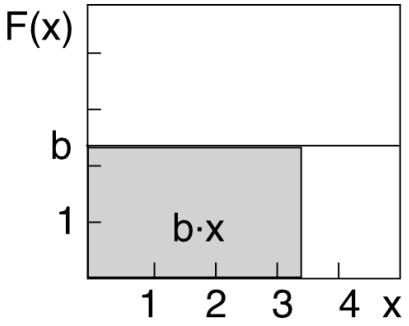
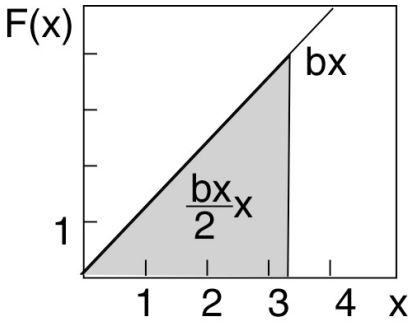
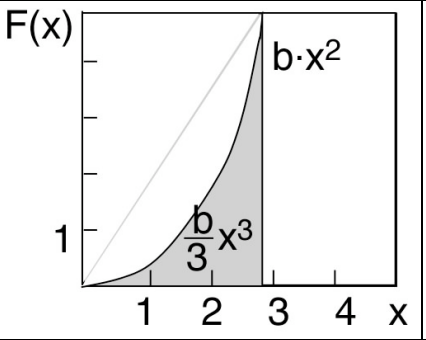
Commonly Used Derivatives and Anti-Derivatives for Functions F(x)

Function F(x)	**Graph of F(x)**	**Derivative:** $\frac{dF(x)}{dx}$	**Anti-Derivative (Integral):** $\int F(x)dx$
F(x) = b function is constant over x		$\frac{dF(x)}{dx} = 0$	$b\int dx = b \cdot x + a$
$F(x) = c \cdot x$ function is linear in x		$\frac{dF(x)}{dx} = c$	$c\int x dx = \frac{c}{2}x^2 + a$
$F(x) = b \cdot x^2$ function is quadratic in x		$\frac{dF(x)}{dx} = 2 \cdot b \cdot x$	$b\int x^2 dx = \frac{b}{3}x^3 + a$
$F(x) = b \cdot x^3$ function is cubic in time or a general power n of x: $F(x) = b \cdot x^n$		$\frac{dF(x)}{dx} = 3 \cdot b \cdot x^2$ Derivative of power n: $\frac{dF(x)}{dx} = n \cdot b \cdot x^{n-1}$	$b\int x^3 dx = \frac{b}{4}x^4 + a$ Integral of power n: $b\int x^n dx = \frac{b}{n+1}x^{n+1} + a$