**5.*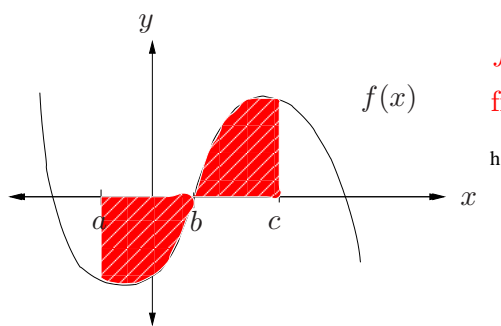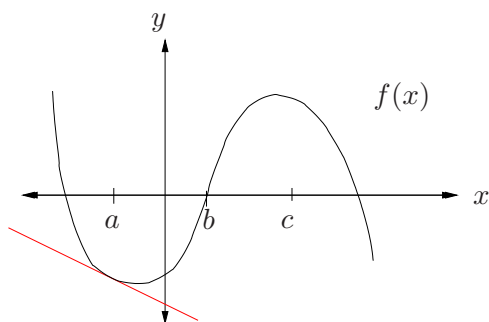* (12 points) For parts (a) - (c), on the graphs below, show a graphical interpretation for each of the given expressions, and then explain how the quantities given by the expression relate to your drawings on the graphs.
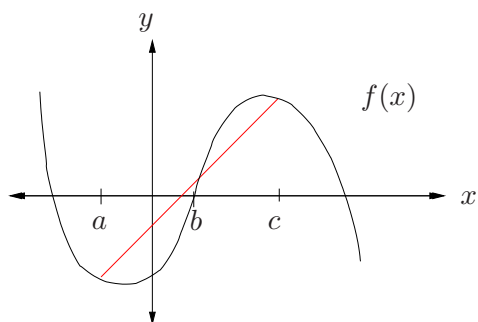
(a) $\int_a^c f(x)\,dx$

$\int_a^c f(x)\,dx$ is the area between $f(x)$ and the $x-$axis

from $x = a$ to $x = c$.

(b) $f'(a)$

$f'(a)$ is the slope of the tangent

line to $f(x)$ at $x = a$.

(c) $\dfrac{f(c) - f(a)}{c - a}$

This is the slope of the line connecting the

points $(a, f(a))$ and $(c, f(c))$.