1.) (6 pts.) Use the given graph of $f$ to evaluate the limits below.

a.) (2 pts.) $\lim_{x \to -1^-} f(x)$;

b.) (2 pts.) $\lim_{x \to -1^+} f(x)$;

c.) (2 pts.) $\lim_{x \to -1} f(x)$.

DNE (because one-sided limits do not match)

2.) (4 pts.) Suppose that $F$ is an antiderivative of $f(x) = x \sin x$. Find $F'(x)$.

$F'$ is a function with derivative $f$ (by the definition of antiderivative). Therefore

$F'(x) = f(x)$, that is, $F'(x) = x \sin x$