1. Consider the function $f$ graphed below.

(a) For what values is $f'(x) = 0$?

(b) On what interval(s) is $f'(x) > 0$?

(c) On what interval(s) is $f'(x) < 0$?

(d) Determine the values of $\lim_{x \to \infty} f(x)$ and $\lim_{x \to -\infty} f(x)$. Use this information to determine the value of the slope of $f$ when $|x|$ is large.

(e) Sketch a graph of $f'$ below.

2. Use the power rule to find derivatives for the following functions.

(a) $f(x) = x^{13}$

(b) $f(x) = \frac{1}{x^3}$

(c) $f(x) = \sqrt{x}$