WORKSHEET: SECTION 2.2 DAY TWO

1. Determine the infinite limit. Explain your reasoning.

   (a) $\lim_{x \to 3^-} \dfrac{\sqrt{x}}{x-3}$

   (b) $\lim_{x \to 3^+} \dfrac{\sqrt{x}}{x-3}$

   (c) $\lim_{x \to 3^+} \dfrac{2-10x}{x-3}$

   (d) $\lim_{x \to 3^+} \ln(x-3)$

   (e) Why didn't we ask you to find $\lim_{x \to 3^-} \ln(x-3)$?

2. Let $f(x) = 8 - x^2$ have domain $(-\infty, 1) \cup (1, \infty)$. Sketch $f(x)$ and explain why $f(x)$ has a limit as x approaches 1 even though $f(x)$ is undefined at $x = 1$.

3. Find the vertical asymptotes of the function $y = \dfrac{x^2+1}{3x-2x^2}$.