Quiz 3

1. (2 points). Sketch the graph of a function $f(x)$ that satisfies the conditions

$$\lim_{x\to 0^-} f(x) = 2, \quad \lim_{x\to 0^+} f(x) = 3, \quad \lim_{x\to 2} f(x) = 1, \quad f(2) = 3, \quad \lim_{x\to 4} f(x) = \infty$$

2. (3 points). Evaluate the following two limits. (No L'Hospital's Rule!) Show all work.

a. $\lim_{x\to -2} \dfrac{x^3+8}{x^2-4}$

b. $\lim_{x\to 0^+} x^3 \cos(\ln x)$