1. Evaluate the limits using the given graph.

(a) \( \lim_{x \to 2^+} f(x) = \)

(b) \( \lim_{x \to 4^-} f(x) = \)

(c) \( \lim_{x \to 4^+} f(x) = \)

(d) \( \lim_{x \to 6} f(x) = \)
2. Consider the following function, where $a$ and $b$ are unknown constants.

\[ f(x) = \begin{cases} 
  x^3 - b & , \quad x < -1 \\
  \frac{x^3 - b}{2x - 6} & , \quad x = -1 \\
  a & , \quad x = -1 \\
  b - 3x^2 & , \quad x > -1 
\end{cases} \]

What values should be assigned to $a$ and $b$ so that $f$ is continuous for all $x$?

*You must fully justify your answer using proper calculus-based methods taught in this course.*