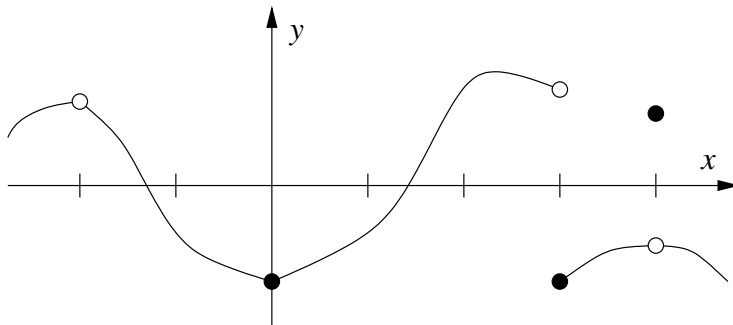Class prep quiz on section 2.2, Stewart's Calculus (8th ed.)

For both problems 1 and 2, assume that $y = f(x)$ has the following graph:

1. At which of the following values of x does $f(x)$ **NOT** have a limit?

    (a) $x = -2$ (b) $x = 0$ (c) $x = 3$ (d) $x = 4$

2. Which of the following statements is **FALSE**?

    (a) $\lim\limits_{x \to -2^+} f(x)$ exists and is positive.

    (b) $\lim\limits_{x \to 0^+} f(x)$ exists and is negative.

    (c) $\lim\limits_{x \to 3^+} f(x)$ exists and is positive.

    (d) $\lim\limits_{x \to 3^+} f(x)$ exists and is negative.

3. Which of the following seems most likely to be the value of $\lim\limits_{x \to 1} \dfrac{3x^2 - 3}{x - 1}$?

    (a) -6 (b) 0 (c) 6 (d)   The limit does not exist.

4. Let $f(x) = \dfrac{e^x - e^2}{x - 2}$. Which of the following are most likely to be true about $\lim\limits_{x \to 2} f(x)$?

    (a) $\lim\limits_{x \to 2} f(x) = f(2.01)$

    (b) $\lim\limits_{x \to 2} f(x) = f(1.999999)$

    (c) $\lim\limits_{x \to 2} f(x) = f(2.0000000001)$

    (d)   None of the above