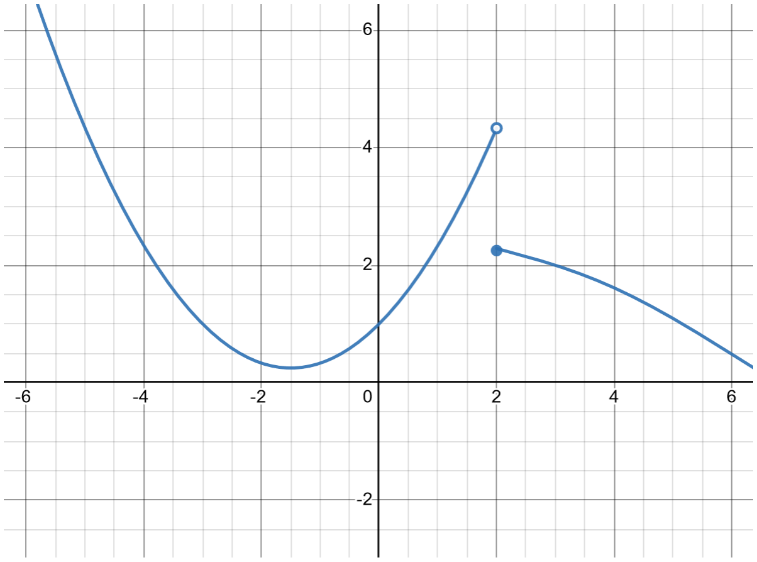
1. II have two functions, $f(x)$ and $g(x)$. Here is the graph of $f(x)$:



Unfortunately, I lost the graph of $g(x)$. Which of the following is true?

   A. The limit $\lim_{x\to 2}[f(x)+g(x)]$ exists.

   B. The limit $\lim_{x\to 2}[f(x)+g(x)]$ does not exist.

   C. There is not enough information to tell if $\lim_{x\to 2}[f(x)+g(x)]$ exists.

2. Given two infinite decimals $a = 0.3939393939...$ and $b = 0.67766777666...$, their sum $a + b$:

   A. is not defined because the sum of a rational and irrational number is not defined.

   B. is not a number because not all infinite decimals are real numbers.

   C. can be defined precisely by using successively better approximations

   D. is not a real number because the pattern may not be predictable indefinitely.

3. "Whether or not $\lim_{x\to a} f(x)$ exists depends on how $f(a)$ is defined" is true

   A. Sometimes

   B. Always

   C. Never

4. What is the maximum number of horizontal asymptotes that a function can have?

   A. One

   B. Two

   C. Three

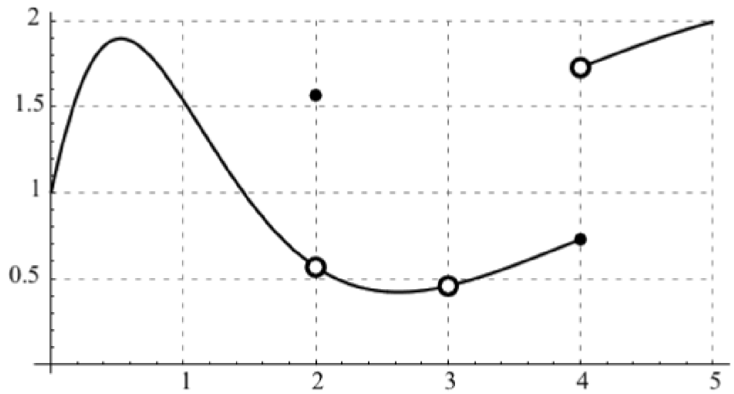
   D. There is no maximum number.

5. Find $\lim\limits_{x \to 3} \dfrac{x^3 - 3x^2 - x + 3}{x^2 - 9}$, or explain why the limit does not exist.

6. Find $\lim_{x\to\infty} \dfrac{\sqrt{16x^4+52x-307}}{2x^2+2x+2}$, or explain why it does not exist.

7. $\lim\limits_{x \to -3} \dfrac{x^3 - 3x^2 - x + 3}{x^2 - 9}$

8. Use the following graph to find the values:



$y = f(x)$

If the value does not exist, write DNE.

(a) $\lim_{x\to 1^-} f(x)$ ______________

(b) $\lim_{x\to 1^+} f(x)$ ______________

(c) $\lim_{x\to 1} f(x)$ ______________

(d) $f(1)$ ______________

(e) $\lim_{x\to 2^-} f(x)$ ______________

(f) $\lim_{x\to 2^+} f(x)$ ______________

(g) $\lim_{x\to 2} f(x)$ ______________

(h) $f(2)$ ______________

(i) $\lim_{x\to 3^-} f(x)$ ______________

(j) $\lim_{x\to 3^+} f(x)$ ______________

(k) $\lim_{x\to 3} f(x)$ ______________

(l) $f(3)$ ______________

(m) $\lim_{x\to 4^-} f(x)$ ______________

(n) $\lim_{x\to 4^+} f(x)$ ______________

(o) $\lim_{x\to 4} f(x)$ ______________

(p) $f(4)$ ______________