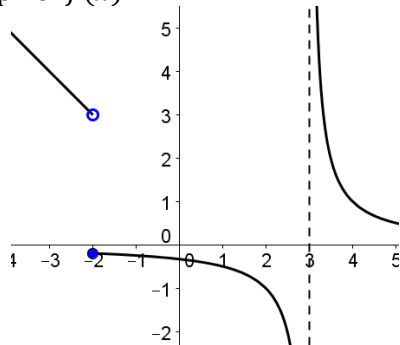


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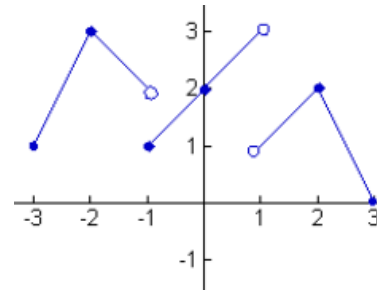
31.) Which of the following limits must NOT exist for the graph of $f(x)$?



- a. $\lim_{x \rightarrow -2^+} f(x)$
- b. $\lim_{x \rightarrow 0} f(x)$
- c. $\lim_{x \rightarrow 2} f(x)$
- d. $\lim_{x \rightarrow 3} f(x)$
- e. $\lim_{x \rightarrow \infty} f(x)$

32.) Evaluate $\lim_{x \rightarrow -1^-} g(x + 2)$ for $g(x)$ graphed below.

- a. 0
- b. 1
- c. 2
- d. 3
- e. Cannot be determined by given information.

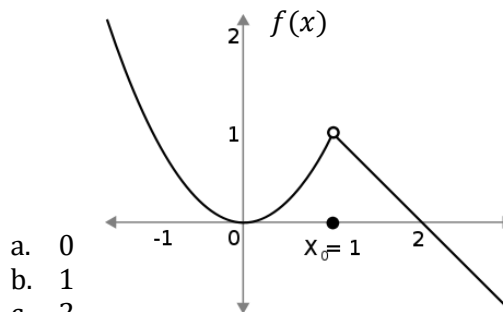


33.) Determine the value of a that would make the following function continuous:

$$h(x) = \begin{cases} x^3 + a^3 & \text{if } x < 2 \\ 4 - 2x & \text{if } x \geq 2 \end{cases}$$

- a. -2
- b. -1
- c. 0
- d. 2
- e. Cannot be determined by given information.

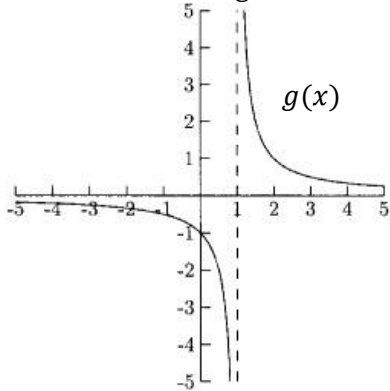
34.) According to the graph $y = f(x)$ below, $\lim_{x \rightarrow 1} f(x) = ?$



- a. 0
- b. 1
- c. 2
- d. $-\infty$
- e. Limit does not exist

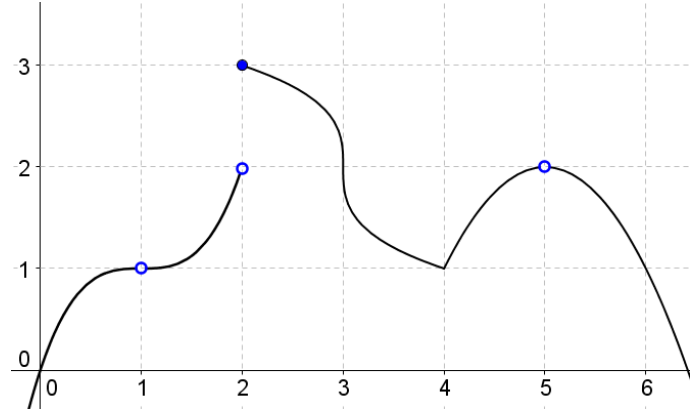
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35.) According to the graph of $y = g(x)$ below, which of the following statements is FALSE:



- a. $\lim_{x \rightarrow \infty} g(x) = 0$
- b. $\lim_{x \rightarrow 1^-} g(x) = \infty$
- c. $\lim_{x \rightarrow 1} g(x)$ does not exist
- d. g has a vertical asymptote at $x = 1$
- e. g has an infinite discontinuity

Use the following graph of $f(x)$ to answer questions #6 and #7



36.) Evaluate $\lim_{x \rightarrow 2^-} f(x)$.

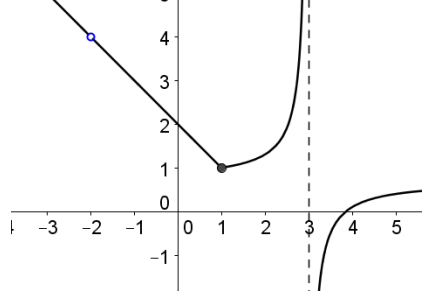
- a. 0
- b. 1
- c. 2
- d. 3
- e. Limit does not exist.

37.) On the interval $[0,6]$ for how many distinct values of k does $\lim_{x \rightarrow k} f(x) = 1$?

- a. 0
- b. 1
- c. 2
- d. 3
- e. 4

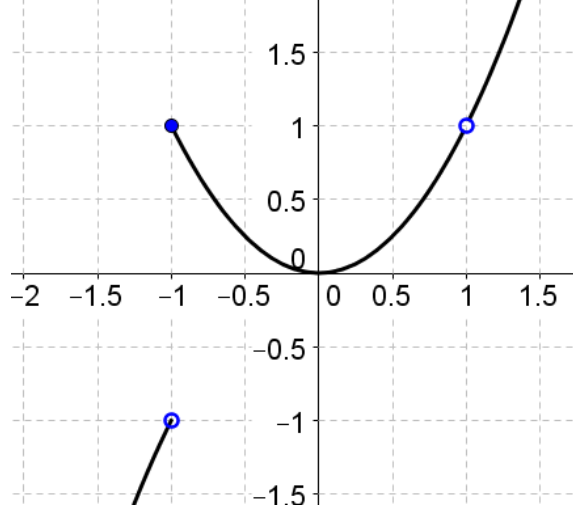
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38.) Circle all of the following statements about $f(x)$ graphed below must be FALSE?



- $\lim_{x \rightarrow -2} f(x)$ does not exist
- $\lim_{x \rightarrow 1} f(x)$ does not exist
- $\lim_{x \rightarrow 3} f(x)$ does not exist
- f has a jump discontinuity.
- f has an infinite discontinuity

Use the following graph of f to answer #9 and #10



39.) Circle all of the following statements about f are FALSE?

- $\lim_{x \rightarrow -1^-} f(x) = f(-1)$
- $\lim_{x \rightarrow -1} f(x)$ does not exist
- $\lim_{x \rightarrow 1} f(x)$ does not exist
- $f(1)$ does not exist
- $f(-1)$ does not exist

40.) The function $h(x)$ is defined by the equation below:

$$h(x) = \begin{cases} f(x) & \text{if } x \neq 1 \\ b & \text{if } x = 1 \end{cases}$$

If $h(x)$ is continuous at $x = 1$, what must be the value of b ?

- 1
- 0
- 1
- 2
- Cannot be determined by given information.