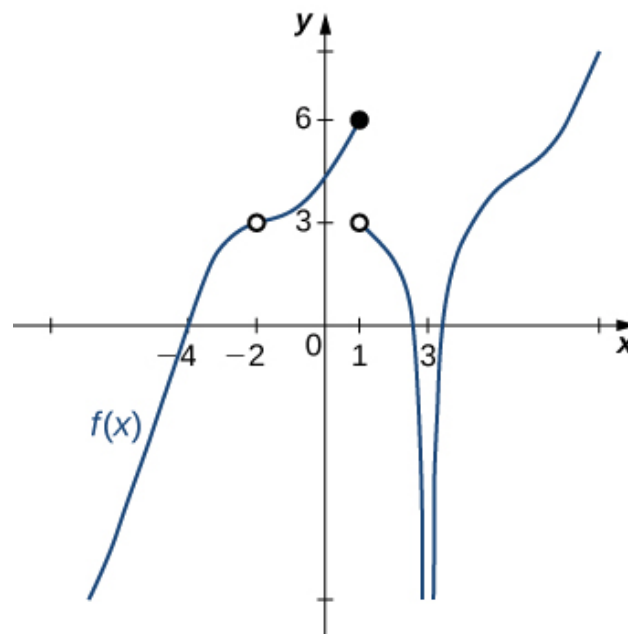1. Evaluate the one-sided limit of the function $f(x)$ below, if possible.

$$\lim_{x \to 1^-} \frac{-3}{(x+1)^8} + 7$$

A. $\infty$

B. $-\infty$

C. $f(1)$

D. The limit does not exist

E. None of the above

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2. For the graph below, find the value(s) $a$ that makes the statement true: $\lim_{x \to a} f(x)$ does not exist.



A. 3

B. 1

C. $-2$

D. Multiple $a$ make the statement true.

E. No $a$ make the statement true.

3. To estimate the one-sided limit of the function below as $x$ approaches 3 from the right, which of the following sets of numbers should you use?

$$\frac{\frac{3}{x} - 1}{x - 3}$$

  A. $\{2.9000, 2.9900, 2.9990, 2.9999\}$

  B. $\{3.0000, 3.1000, 3.0100, 3.0010\}$

  C. $\{3.1000, 3.0100, 3.0010, 3.0001\}$

  D. $\{3.0000, 2.9000, 2.9900, 2.9990\}$

  E. $\{2.9000, 2.9900, 3.0100, 3.1000\}$

4. Based on the information below, which of the following statements is always true?

*As $x$ approaches 2, $f(x)$ approaches* 17.347.

  A. $f(2) = 17$

  B. $f(17) = 2$

  C. $f(2)$ is close to or exactly 17

  D. $f(17)$ is close to or exactly 2

  E. None of the above are always true.

5. For the graph below, evaluate the limit: $\lim\limits_{x \to 3} f(x)$.
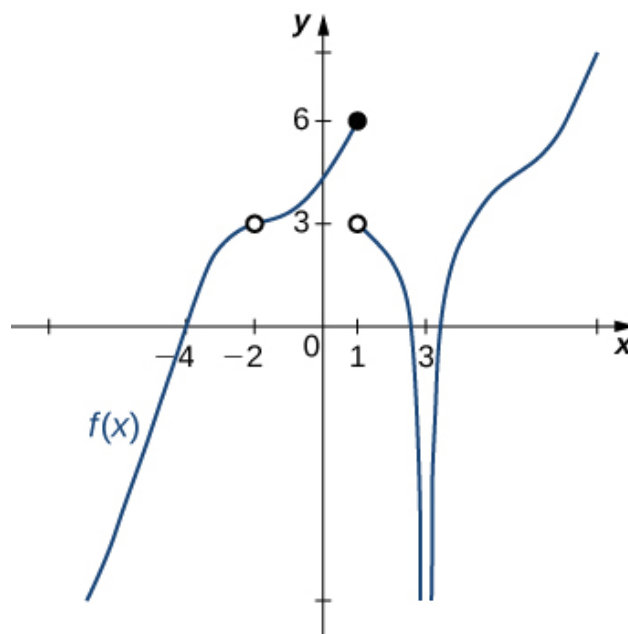
A. 1

B. $-\infty$

C. $-2$

D. The limit does not exist

E. None of the above

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6. Evaluate the one-sided limit of the function $f(x)$ below, if possible.

$$\lim_{x \to -2^-} \frac{1}{(x-2)^7} + 4$$

A. $f(-2)$

B. $-\infty$

C. $\infty$

D. The limit does not exist

E. None of the above

7. To estimate the one-sided limit of the function below as $x$ approaches 2 from the right, which of the following sets of numbers should you use?

$$\frac{\frac{2}{x} - 1}{x - 2}$$

A. $\{2.0000, 2.1000, 2.0100, 2.0010\}$

B. $\{1.9000, 1.9900, 2.0100, 2.1000\}$

C. $\{2.1000, 2.0100, 2.0010, 2.0001\}$

D. $\{1.9000, 1.9900, 1.9990, 1.9999\}$

E. $\{2.0000, 1.9000, 1.9900, 1.9990\}$

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8. Based on the information below, which of the following statements is always true?

*As $x$ approaches $\infty$, $f(x)$ approaches 16.236.*

A. $f(x)$ is close to or exactly 16.236 when $x$ is large enough.

B. $f(x)$ is close to or exactly $\infty$ when $x$ is large enough.

C. $x$ is undefined when $f(x)$ is large enough.

D. $f(x)$ is undefined when $x$ is large enough.

E. None of the above are always true.

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9. Evaluate the limit below, if possible.

$$\lim_{x \to 5} \frac{\sqrt{9x - 9} - 6}{8x - 40}$$

A. 0.083

B. $\infty$

C. 0.010

D. 0.375

E. None of the above

10. Evaluate the limit below, if possible.

$$\lim_{x \to 4} \frac{\sqrt{8x - 7} - 5}{6x - 24}$$

A. 0.100

B. 0.017

C. $\infty$

D. 0.471

E. None of the above