

1. To estimate the one-sided limit of the function below as x approaches 5 from the left, which of the following sets of numbers should you use?

$$\frac{\frac{5}{x} - 1}{x - 5}$$

- A. {4.9000, 4.9900, 4.9990, 4.9999}
 - B. {5.0000, 4.9000, 4.9900, 4.9990}
 - C. {4.9000, 4.9900, 5.0100, 5.1000}
 - D. {5.1000, 5.0100, 5.0010, 5.0001}
 - E. {5.0000, 5.1000, 5.0100, 5.0010}
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2. Based on the information below, which of the following statements is always true?

As x approaches 4, $f(x)$ approaches 11.633.

- A. $f(x)$ is close to or exactly 11.633 when x is close to 4
 - B. $f(x) = 4$ when x is close to 11.633
 - C. $f(x)$ is close to or exactly 4 when x is close to 11.633
 - D. $f(x) = 11.633$ when x is close to 4
 - E. None of the above are always true.
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3. To estimate the one-sided limit of the function below as x approaches 7 from the left, which of the following sets of numbers should you use?

$$\frac{\frac{7}{x} - 1}{x - 7}$$

- A. {6.9000, 6.9900, 7.0100, 7.1000}
- B. {7.0000, 6.9000, 6.9900, 6.9990}
- C. {7.1000, 7.0100, 7.0010, 7.0001}
- D. {6.9000, 6.9900, 6.9990, 6.9999}

E. $\{7.0000, 7.1000, 7.0100, 7.0010\}$

4. Evaluate the limit below, if possible.

$$\lim_{x \rightarrow 5} \frac{\sqrt{9x - 9} - 6}{6x - 30}$$

A. 0.083

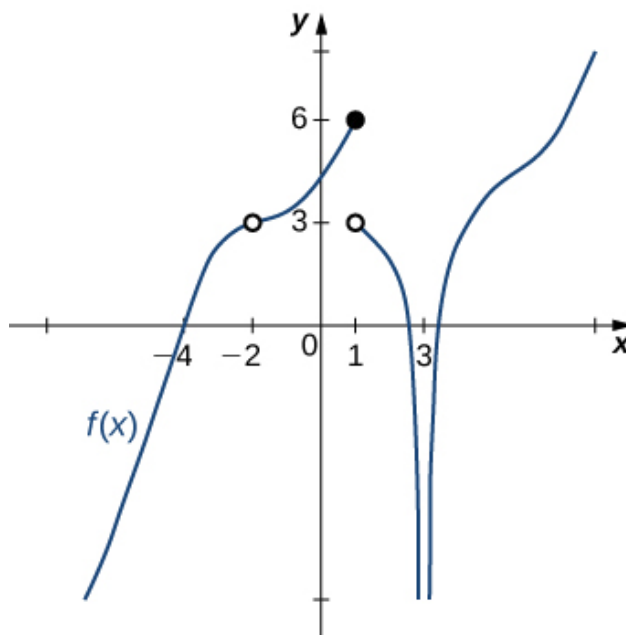
B. 0.125

C. ∞

D. 0.500

E. None of the above

5. For the graph below, evaluate the limit: $\lim_{x \rightarrow 1} f(x)$.



A. 3

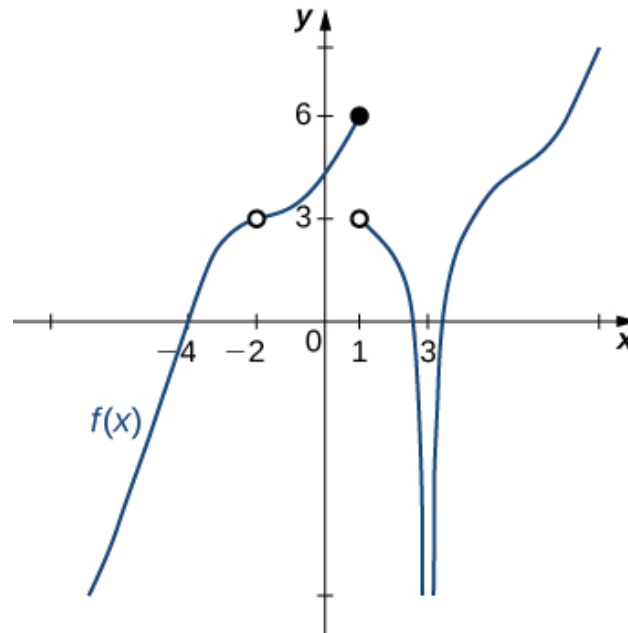
B. $-\infty$

C. 6

D. The limit does not exist

E. None of the above

6. For the graph below, evaluate the limit: $\lim_{x \rightarrow -2} f(x)$.



- A. $-\infty$
 - B. 3
 - C. -2
 - D. The limit does not exist
 - E. None of the above
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7. Based on the information below, which of the following statements is always true?

As x approaches ∞ , $f(x)$ approaches 13.274.

- A. x is undefined when $f(x)$ is large enough.
- B. $f(x)$ is close to or exactly 13.274 when x is large enough.
- C. $f(x)$ is close to or exactly ∞ when x is large enough.
- D. $f(x)$ is undefined when x is large enough.

E. None of the above are always true.

8. Evaluate the limit below, if possible.

$$\lim_{x \rightarrow 9} \frac{\sqrt{6x - 29} - 5}{8x - 72}$$

- A. 0.306
 - B. 0.100
 - C. 0.012
 - D. ∞
 - E. None of the above
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9. Evaluate the one-sided limit of the function $f(x)$ below, if possible.

$$\lim_{x \rightarrow 3^-} \frac{-7}{(x + 3)^5} + 5$$

- A. $f(3)$
 - B. $-\infty$
 - C. ∞
 - D. The limit does not exist
 - E. None of the above
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10. Evaluate the one-sided limit of the function $f(x)$ below, if possible.

$$\lim_{x \rightarrow -5^+} \frac{-8}{(x + 5)^7} + 6$$

- A. $f(-5)$
- B. ∞
- C. $-\infty$

- D. The limit does not exist
 - E. None of the above
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