1. Evaluate the limit below, if possible.

$$\lim_{x\to 5} \frac{\sqrt{8x-15}-5}{3x-15}$$

A. 0.033

B. 0.100

C. 0.267

D. ∞

E. None of the above

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

$$\lim_{x\to -8^+} \frac{4}{(x-8)^4}+1$$

A. $-\infty$

B. $f(-8)$

C. ∞

D. The limit does not exist

E. None of the above

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

As x approaches 8, $f(x)$ approaches ∞.

A. $f(x)$ is undefined when x is close to or exactly 8.

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

C. $f(x)$ is close to or exactly 8 when x is large enough.

D. x is undefined when $f(x)$ is close to or exactly ∞.

E. None of the above are always true.

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

$$As\ x\ approaches\ 1,\ f(x)\ approaches\ 9.895.$$

A. $f(x)$ is close to or exactly 1 when x is close to 9.895

B. $f(x) = 9.895$ when x is close to 1

C. $f(x)$ is close to or exactly 9.895 when x is close to 1

D. $f(x) = 1$ when x is close to 9.895

E. None of the above are always true.

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

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

A. $\{5.1000, 5.0100, 5.0010, 5.0001\}$

B. $\{4.9000, 4.9900, 4.9990, 4.9999\}$

C. $\{4.9000, 4.9900, 5.0100, 5.1000\}$

D. $\{5.0000, 4.9000, 4.9900, 4.9990\}$

E. $\{5.0000, 5.1000, 5.0100, 5.0010\}$

6. Evaluate the limit below, if possible.

$$\lim_{x \to 8} \frac{\sqrt{8x - 15} - 7}{7x - 56}$$

A. 0.082

B. 0.404

C. 0.071

D. ∞

E. None of the above

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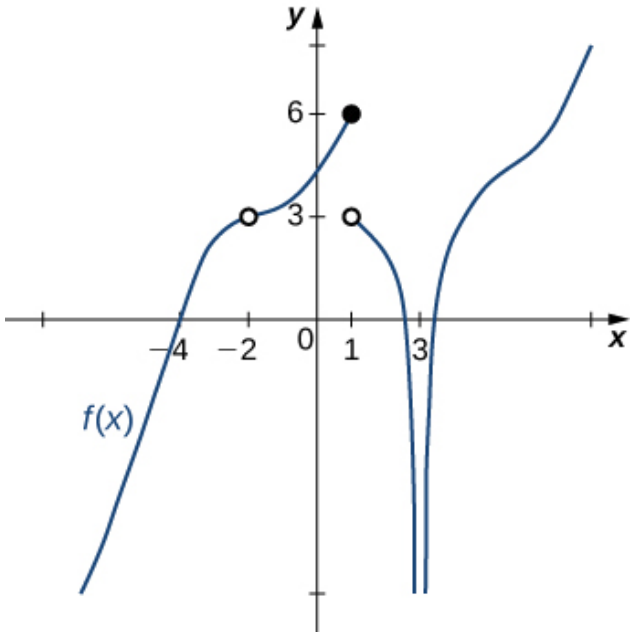
7. For the graph below, evaluate the limit: $\lim_{x \to -4} f(x)$.



A. $-\infty$

B. -6

C. 0

D. The limit does not exist

E. None of the above

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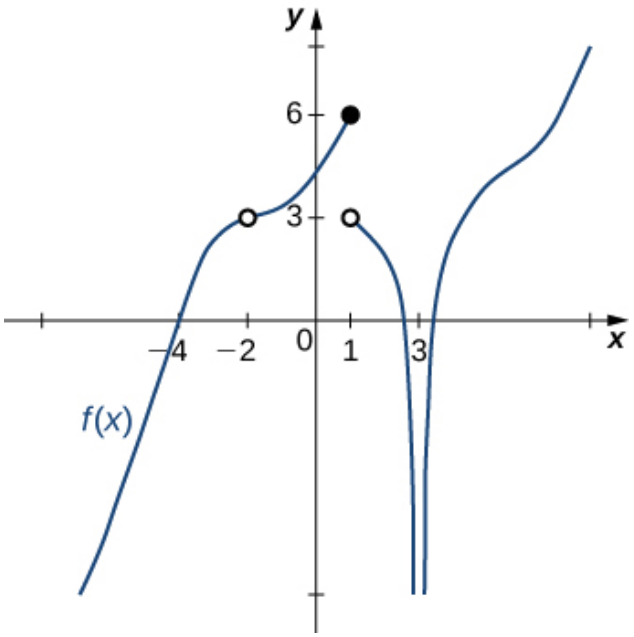
8. For the graph below, evaluate the limit: $\lim_{x \to -4} f(x)$.



A. 0

B. $-\infty$

C. -6

D. The limit does not exist

E. None of the above

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

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

A. $\{5.1000, 5.0100, 5.0010, 5.0001\}$

B. $\{5.0000, 5.1000, 5.0100, 5.0010\}$

C. $\{5.0000, 4.9000, 4.9900, 4.9990\}$

D. $\{4.9000, 4.9900, 4.9990, 4.9999\}$

E. $\{4.9000, 4.9900, 5.0100, 5.1000\}$

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

$$\lim_{x \to 4^+} \frac{-1}{(x+4)^8} + 7$$

A. ∞

B. $f(4)$

C. $-\infty$

D. The limit does not exist

E. None of the above
