1. To estimate the one-sided limit of the function below as x approaches 6 from the right, which of the following sets of numbers should you use?

$$\frac{\frac{6}{x} - 1}{x - 6}$$

   A. $\{6.1000, 6.0100, 6.0010, 6.0001\}$

   B. $\{5.9000, 5.9900, 5.9990, 5.9999\}$

   C. $\{5.9000, 5.9900, 6.0100, 6.1000\}$

   D. $\{6.0000, 5.9000, 5.9900, 5.9990\}$

   E. $\{6.0000, 6.1000, 6.0100, 6.0010\}$

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

   As x approaches ∞, $f(x)$ approaches 19.245.

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

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

   C. $f(x)$ is close to or exactly 19.245 when x is large enough.

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

   E. None of the above are always true.

3. To estimate the one-sided limit of the function below as x approaches 3 from the left, 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. $\{2.9000, 2.9900, 3.0100, 3.1000\}$

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

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

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

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4. Evaluate the limit below, if possible.

$$\lim_{x \to 8} \frac{\sqrt{8x - 48} - 4}{4x - 32}$$
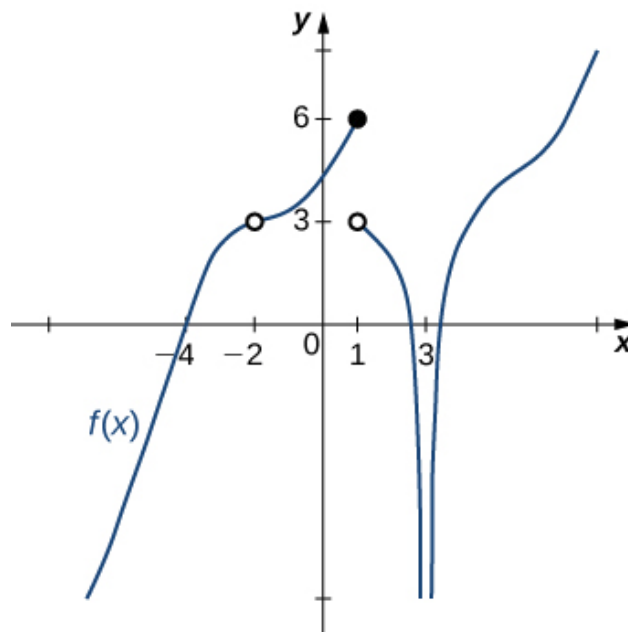
A. 0.125

B. ∞

C. 0.707

D. 0.031

E. None of the above

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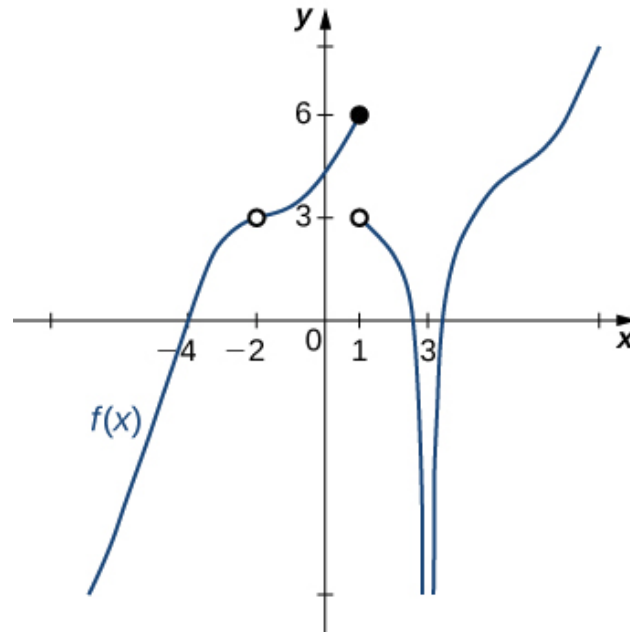

A. 3

B. 1

C. -2

D. Multiple a make the statement true.

E. No a make the statement true.

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

A. 1

B. 3

C. -2

D. Multiple a make the statement true.

E. No a make the statement true.

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

$$\text{As } x \text{ approaches } \infty, \ f(x) \text{ approaches } 14.925.$$

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

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

C. $f(x)$ is close to or exactly 14.925 when 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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8. Evaluate the limit below, if possible.

$$\lim_{x \to 9} \frac{\sqrt{6x - 29} - 5}{2x - 18}$$

A. 1.225

B. 0.050

C. 0.100

D. ∞

E. None of the above

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

$$\lim_{x \to 8^-} \frac{9}{(x - 8)^4} + 7$$

A. ∞

B. $-\infty$

C. $f(8)$

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.

$$\lim_{x \to 5^+} \frac{1}{(x - 5)^8} + 7$$

A. $f(5)$

    B. $-\infty$

    C. ∞

    D. The limit does not exist

    E. None of the above