1. Evaluate the limit below, if possible.

$$\lim_{x \to 3} \frac{\sqrt{6x - 2} - 4}{5x - 15}$$

A. 0.025

B. 0.125

C. 0.150

D. ∞

E. None of the above

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

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

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

B. $\{6.9000, 6.9900, 7.0100, 7.1000\}$

C. $\{7.0000, 6.9000, 6.9900, 6.9990\}$

D. $\{6.9000, 6.9900, 6.9990, 6.9999\}$

E. $\{7.1000, 7.0100, 7.0010, 7.0001\}$

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

$$\lim_{x \to 8^+} \frac{-5}{(x + 8)^9} + 7$$

A. $-\infty$

B. ∞

C. $f(8)$

D. The limit does not exist

E. None of the above

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

$$\lim_{x \to 2^-} \frac{8}{(x+2)^6} + 2$$

A. ∞

B. $f(2)$

C. $-\infty$

D. The limit does not exist

E. None of the above

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5. 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. $\{1.9000, 1.9900, 1.9990, 1.9999\}$

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

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

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6. For the graph below, find the value(s) a that makes the statement true: $\lim_{x \to a} f(x)$ does not exist.
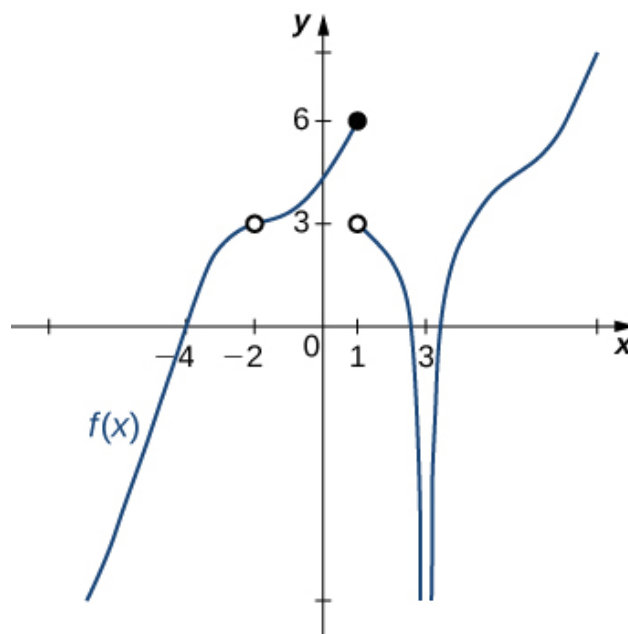
 A. 1

 B. −2

 C. 3

 D. Multiple a make the statement true.

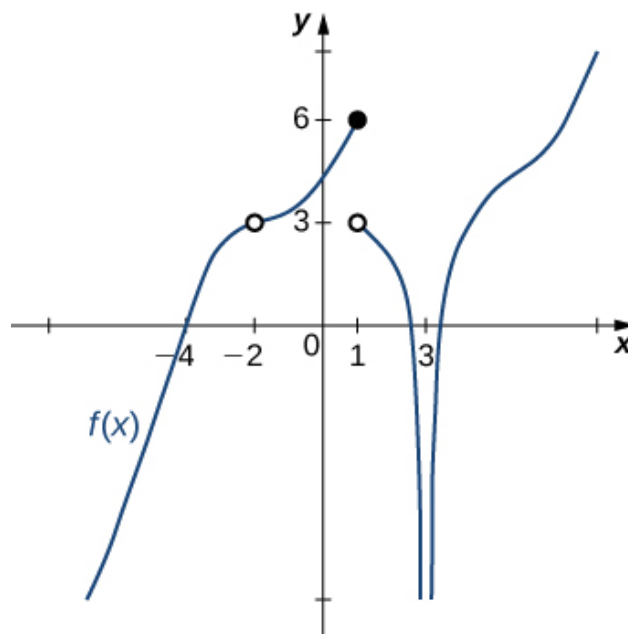 E. No a make the statement true.

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

$$As$$

$xapproaches\infty$, $f(x)$ approaches 16.358.

 A. $f(x)$ is close to or exactly 16.358 when x is large enough.

 B. x is undefined when $f(x)$ 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. For the graph below, find the value(s) a that makes the statement true: $\lim_{x \to a} f(x) = 3$.

A. $-\infty$

B. 1

C. -2

D. Multiple a make the statement true.

E. No a make the statement true.

9. Evaluate the limit below, if possible.

$$\lim_{x \to 6} \frac{\sqrt{9x - 38} - 4}{2x - 12}$$

A. 0.125

B. 1.500

C. ∞

D. 0.062

E. None of the above

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

   f(x)$approaches\infty$ as x approaches 9.

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

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

   C. $f(x)$ is undefined when x is close to or exactly 9.

   D. $f(x)$ is close to or exactly 9 when x is large enough.

   E. None of the above are always true.