1. What is the domain of the function below?

$$f(x) = \sqrt[8]{-5x - 9}$$

A. $(-\infty, a]$, where $a \in [-1.6, 1]$

B. $(-\infty, \infty)$

C. $[a, \infty)$, where $a \in [-1.4, 2.2]$

D. $(-\infty, a]$, where $a \in [-3.5, -1.6]$

E. $[a, \infty)$, where $a \in [-2.4, -1]$

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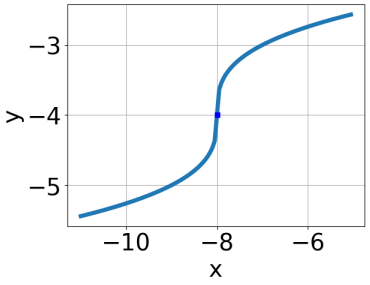
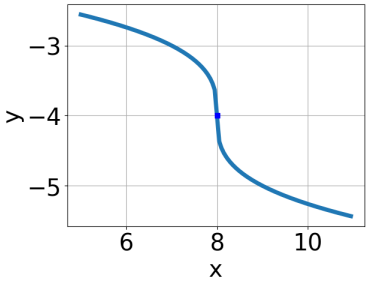
2. Choose the graph of the equation below.

$$f(x) = -\sqrt[3]{x + 8} - 4$$

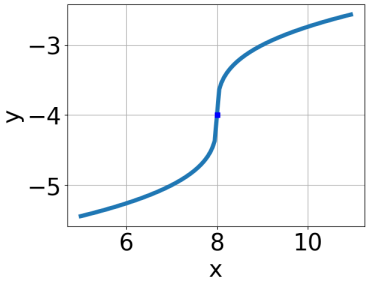
A.



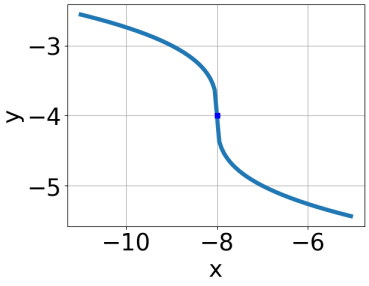
C.



B.



D.



E. None of the above.

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3. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\sqrt{8x + 4} - \sqrt{-9x + 2} = 0$$

A. $x \in [-0.32, 0.05]$

B. $x_1 \in [-0.71, -0.48]$ and $x_2 \in [-0.62, 0.07]$

C. $x \in [-0.38, -0.24]$

D. All solutions lead to invalid or complex values in the equation.

E. $x_1 \in [-0.71, -0.48]$ and $x_2 \in [0.13, 0.86]$

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4. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\sqrt{-24x^2 - 32} - \sqrt{76x} = 0$$

A. $x \in [-2.9, -1.5]$

B. $x \in [-2.4, 2.6]$

C. All solutions lead to invalid or complex values in the equation.

D. $x_1 \in [2.3, 2.9]$ and $x_2 \in [-0.48, 0.97]$

E. $x_1 \in [-2.9, -1.5]$ and $x_2 \in [-1.23, 0.15]$

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5. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\sqrt{-2x - 6} - \sqrt{9x - 9} = 0$$

A. $x_1 \in [-3.27, -2.09]$ and $x_2 \in [0.56, 1.22]$

B. All solutions lead to invalid or complex values in the equation.

C. $x \in [-0.58, 0.96]$

D. $x_1 \in [-3.27, -2.09]$ and $x_2 \in [-0.41, 0.75]$

E. $x \in [-2.25, -1.11]$

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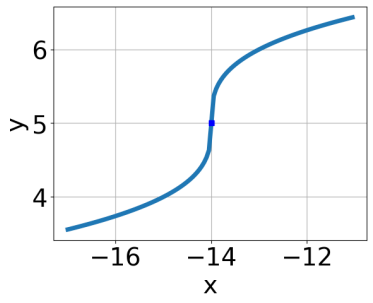
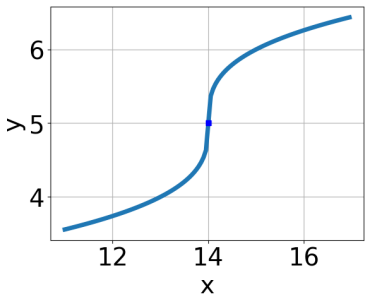
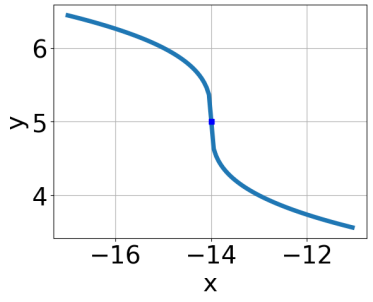
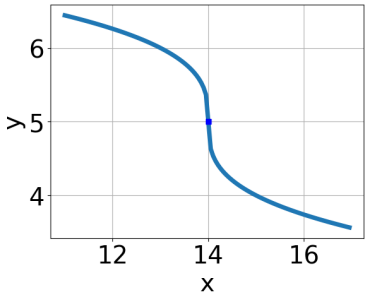
6. Choose the graph of the equation below.

$$f(x) = \sqrt[3]{x - 14} + 5$$

A.


C.


B.


D.


E. None of the above.

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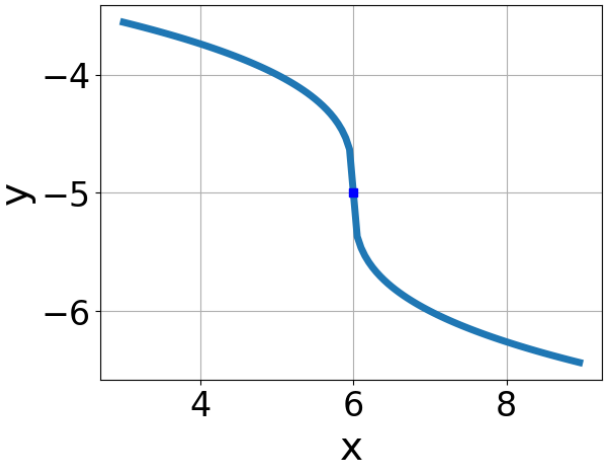
7. Choose the equation of the function graphed below.



A. $f(x) = -\sqrt[3]{x+6} - 5$

B. $f(x) = -\sqrt[3]{x-6} - 5$

C. $f(x) = \sqrt[3]{x+6} - 5$

D. $f(x) = \sqrt[3]{x-6} - 5$

E. None of the above

8. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\sqrt{6x^2 + 42} - \sqrt{33x} = 0$$

A. $x_1 \in [1.4, 3.1]$ and $x_2 \in [-0.5, 6.5]$

B. $x \in [1.4, 3.1]$

C. $x_1 \in [-4.9, -2.4]$ and $x_2 \in [-3, 1]$

D. All solutions lead to invalid or complex values in the equation.

E. $x \in [2.3, 4]$

9. What is the domain of the function below?

$$f(x) = \sqrt[8]{7x - 9}$$

A. $[a, \infty)$, where $a \in [1.21, 1.95]$

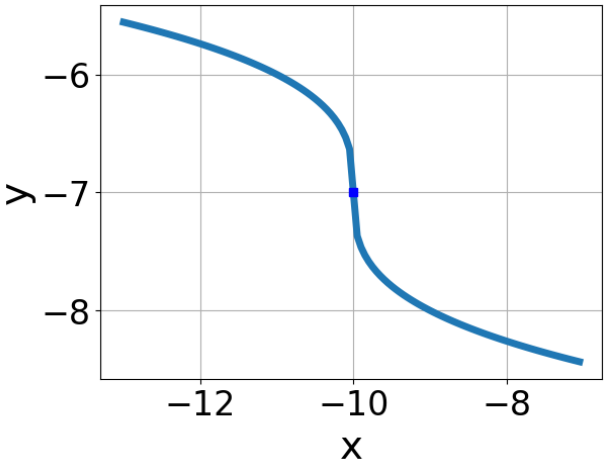
B. $(-\infty, \infty)$

C. $[a, \infty)$, where $a \in [0.76, 1.05]$

D. $(-\infty, a]$, where $a \in [0.59, 1.23]$

E. $(-\infty, a]$, where $a \in [0.99, 2.9]$

10. Choose the equation of the function graphed below.



A. $f(x) = \sqrt{x - 10} - 7$

B. $f(x) = \sqrt{x + 10} - 7$

C. $f(x) = -\sqrt{x + 10} - 7$

D. $f(x) = -\sqrt{x - 10} - 7$

E. None of the above
