1. What is the domain of the function below?

$$f(x) = \sqrt[4]{8x+7}$$

A. $(-\infty, a]$, where $a \in [-1.04, -0.82]$

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

C. $[a, \infty)$, where $a \in [-1.28, -1.01]$

D. $[a, \infty)$, where $a \in [-0.9, -0.84]$

E. $(-\infty, a]$, where $a \in [-1.45, -1.08]$

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

$$\sqrt{5x+4} - \sqrt{-8x-7} = 0$$

A. $x \in [-0.87, -0.81]$

B. $x_1 \in [-0.87, -0.81]$ and $x_2 \in [-0.8, 1.2]$

C. $x \in [0.17, 0.28]$

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

E. $x_1 \in [-0.91, -0.85]$ and $x_2 \in [-0.8, 1.2]$

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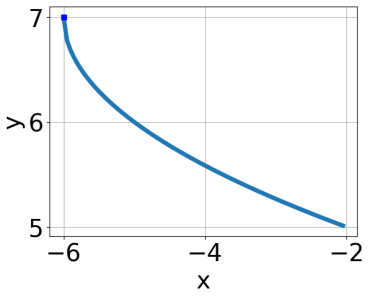
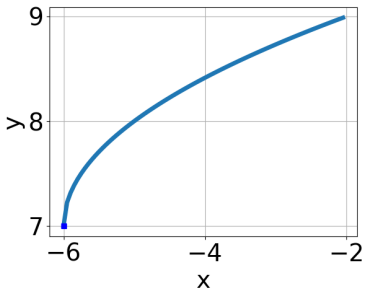
3. Choose the graph of the equation below.

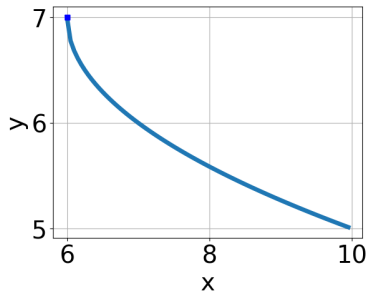
$$f(x) = -\sqrt{x-6} + 7$$

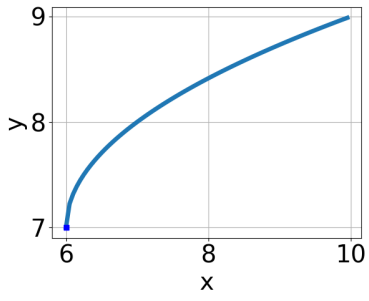
A.



B.



C. 

D. 

E. None of the above.

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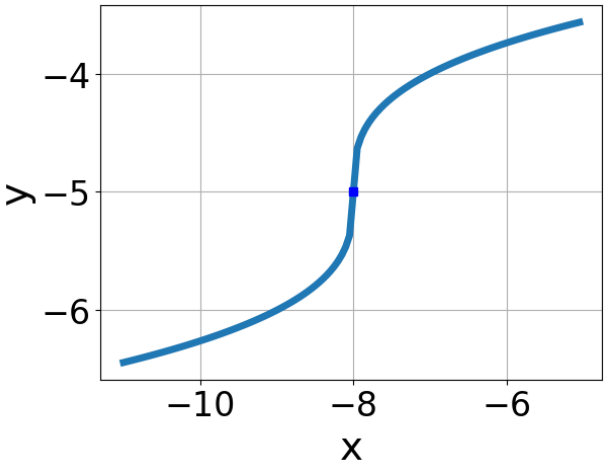
4. Choose the equation of the function graphed below.



A. $f(x) = -\sqrt[3]{x-8} - 5$

B. $f(x) = \sqrt[3]{x-8} - 5$

C. $f(x) = \sqrt[3]{x+8} - 5$

D. $f(x) = -\sqrt[3]{x+8} - 5$

E. None of the above

---

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

$$\sqrt{-3x-8} - \sqrt{-4x-9} = 0$$

A. $x \in [-1.8, 1.1]$

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

C. $x \in [15.7, 20.2]$

D. $x_1 \in [-2.8, -1.2]$ and $x_2 \in [-1.14, 0.16]$

E. $x_1 \in [-2.8, -1.2]$ and $x_2 \in [-2.82, -1.26]$

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6. What is the domain of the function below?

$$f(x) = \sqrt[7]{-6x - 7}$$

A. The domain is $[a, \infty)$, where $a \in [-1.04, -0.21]$

B. The domain is $(-\infty, a]$, where $a \in [-1.77, -0.94]$

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

D. The domain is $[a, \infty)$, where $a \in [-1.23, -0.91]$

E. The domain is $(-\infty, a]$, where $a \in [-1.05, -0.38]$

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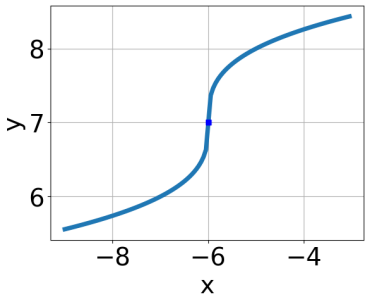
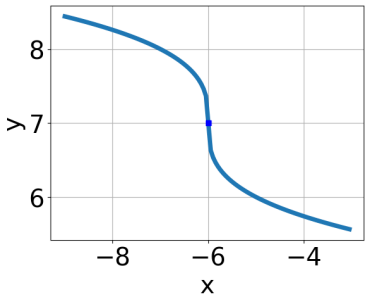
7. Choose the graph of the equation below.

$$f(x) = \sqrt[3]{x + 6} + 7$$

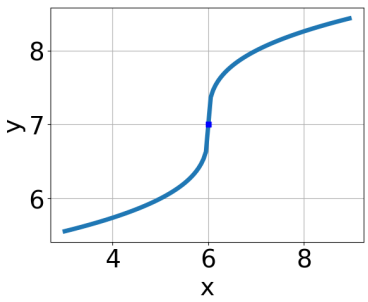
A.



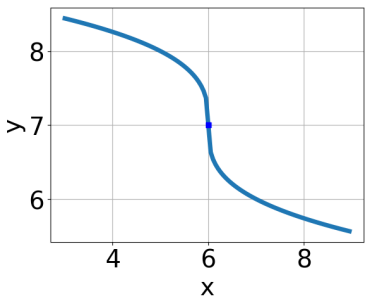
C.



B.



D.



E. None of the above.

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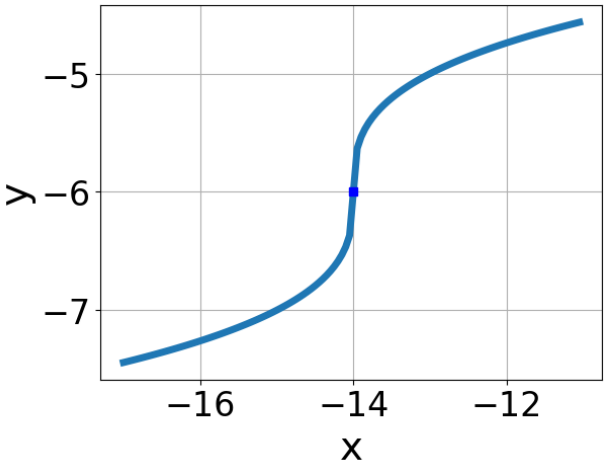
8. Choose the equation of the function graphed below.



A. $f(x) = \sqrt[3]{x - 14} - 6$

B. $f(x) = -\sqrt[3]{x + 14} - 6$

C. $f(x) = -\sqrt[3]{x - 14} - 6$

D. $f(x) = \sqrt[3]{x + 14} - 6$

E. None of the above

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

$$\sqrt{56x^2 + 54} - \sqrt{-114x} = 0$$

A. $x \in [-1.04, 0.25]$

B. $x_1 \in [-1.55, -1.02]$ and $x_2 \in [-2, 0.1]$

C. $x_1 \in [0.64, 2.59]$ and $x_2 \in [0.8, 2.3]$

D. $x \in [-1.55, -1.02]$

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

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

$$\sqrt{-9x^2 + 42} - \sqrt{3x} = 0$$

A. $x \in [1, 3]$

B. $x \in [-5.33, -0.33]$

C. $x_1 \in [1, 3]$ and $x_2 \in [2.2, 4.1]$

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

E. $x_1 \in [-5.33, -0.33]$ and $x_2 \in [0.9, 2.2]$