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

$$\sqrt{6x+2} - \sqrt{9x-5} = 0$$

A. $x_1 \in [-0.62, 0.68]$ and $x_2 \in [1.9, 2.6]$

B. $x_1 \in [-0.62, 0.68]$ and $x_2 \in [-1.9, 1.7]$

C. $x \in [2.13, 2.47]$

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

E. $x \in [-1.77, -0.52]$

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2. What is the domain of the function below?

$$f(x) = \sqrt[6]{-9x-7}$$

A. $[a, \infty)$, where $a \in [-0.83, -0.54]$

B. $(-\infty, a]$, where $a \in [-0.9, 0.6]$

C. $(-\infty, a]$, where $a \in [-2.5, -1]$

D. $[a, \infty)$, where $a \in [-1.92, -1.26]$

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

---

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

$$\sqrt{18x^2-18} - \sqrt{-15x} = 0$$

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

B. $x \in [-7.5, -0.5]$

C. $x_1 \in [-1.33, 8.67]$ and $x_2 \in [0.78, 2.33]$

D. $x \in [-1.33, 8.67]$

E. $x_1 \in [-7.5, -0.5]$ and $x_2 \in [0.45, 0.76]$

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

$$\sqrt{-20x^2 - 54} - \sqrt{66x} = 0$$

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

B. $x \in [-1.64, -1.31]$

C. $x_1 \in [-2.05, -1.67]$ and $x_2 \in [-3, -1.1]$

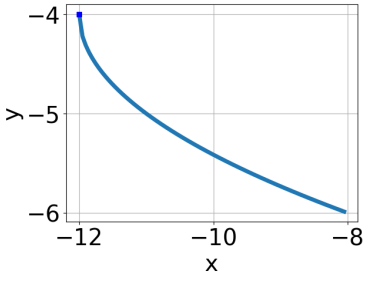
D. $x \in [-2.05, -1.67]$

E. $x_1 \in [1.51, 1.85]$ and $x_2 \in [-1.1, 3.6]$

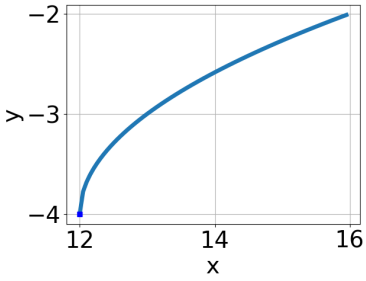
5. Choose the graph of the equation below.

$$f(x) = \sqrt{x + 12} - 4$$

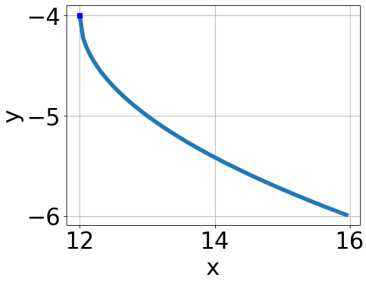
A.



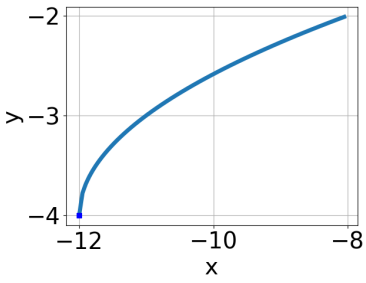
C.



B.

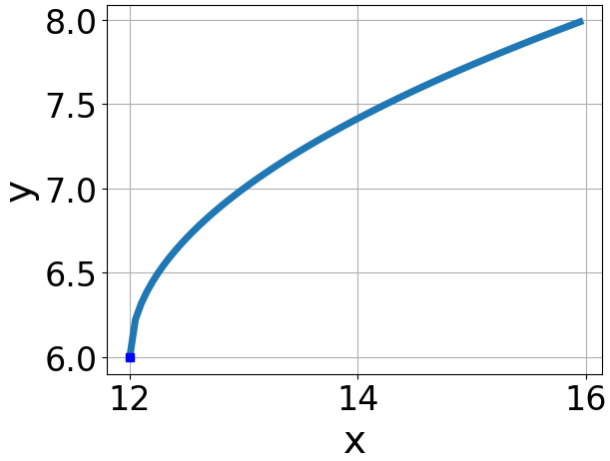


D.



E. None of the above.

6. Choose the equation of the function graphed below.



A. $f(x) = \sqrt[3]{x-12}+6$

B. $f(x) = \sqrt[3]{x+12}+6$

C. $f(x) = -\sqrt[3]{x+12}+6$

D. $f(x) = -\sqrt[3]{x-12}+6$

E. None of the above

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

$$\sqrt{7x-6} - \sqrt{-9x+6} = 0$$

A. $x_1 \in [0.65, 0.73]$ and $x_2 \in [-3.14, 1.86]$

B. $x_1 \in [0.74, 0.81]$ and $x_2 \in [-3.14, 1.86]$

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

D. $x \in [0.74, 0.81]$

E. $x \in [-0.03, 0.05]$

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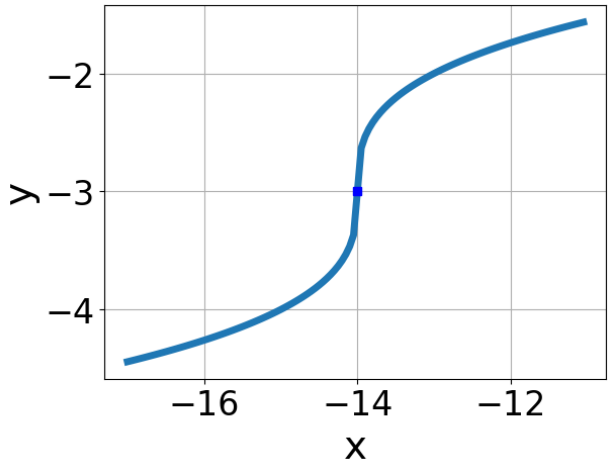
8. Choose the equation of the function graphed below.



A. $f(x) = \sqrt{x+14} - 3$

B. $f(x) = -\sqrt{x-14} - 3$

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

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

E. None of the above

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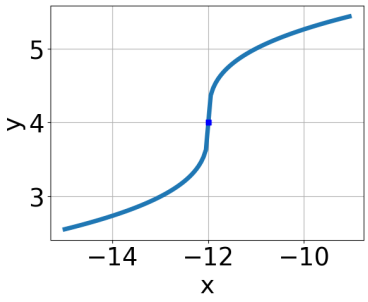
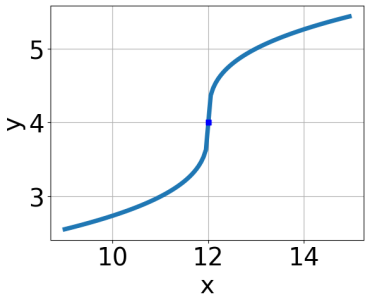
9. Choose the graph of the equation below.

$$f(x) = -\sqrt[3]{x+12} + 4$$

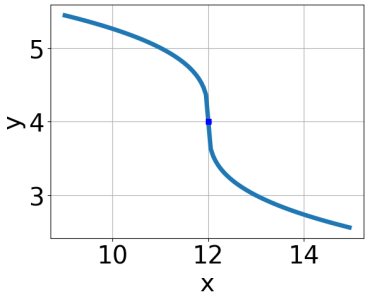
A.



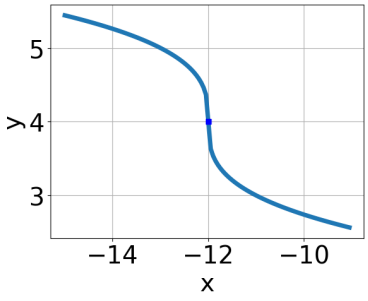
C.



B.



D.



E. None of the above.

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10. What is the domain of the function below?

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

A. $(-\infty, a]$, where $a \in [-0.8, 2.8]$

B. $[a, \infty)$, where $a \in [-5.1, -1.7]$

C. $[a, \infty)$, where $a \in [-1, 1.4]$

D. $(-\infty, a]$, where $a \in [-3.7, -1.4]$

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