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

$$\sqrt{12x^2 + 64} - \sqrt{56x} = 0$$

A. $x_1 \in [1.37, 2.66]$ and $x_2 \in [1.67, 3.67]$

B. $x_1 \in [-2.67, -2.63]$ and $x_2 \in [-3, 1]$

C. $x \in [2.42, 3.04]$

D. $x \in [1.37, 2.66]$

E. All solutions lead to invalid or complex values in the equation.
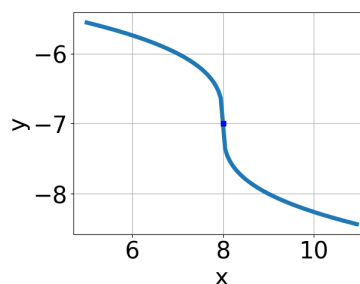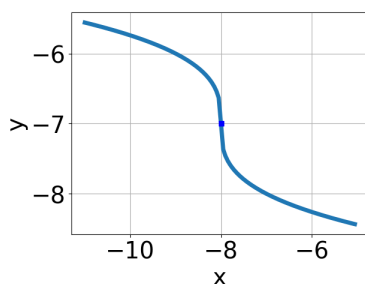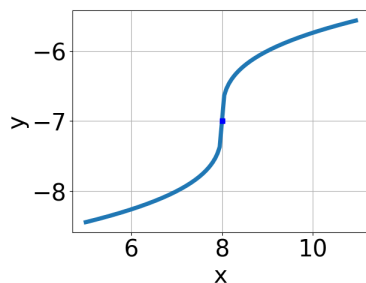
2. What is the domain of the function below?

$$f(x) = \sqrt[4]{-6x - 3}$$

A. $(-\infty, a]$, where $a \in [-0.5, 4.5]$

B. $[a, \infty)$, where $a \in [-1.5, 4.5]$

C. $(-\infty, a]$, where $a \in [-8, -1]$

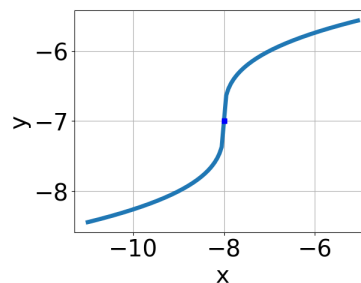D. $[a, \infty)$, where $a \in [-2, -1]$

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

3. Choose the graph of the equation below.

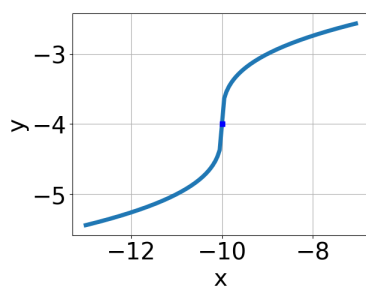$$f(x) = \sqrt[3]{x + 8} - 7$$



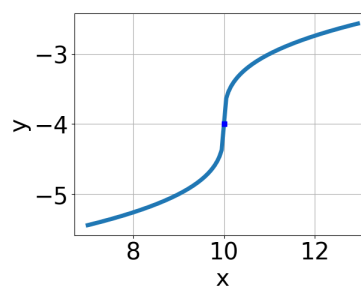A.



B.

C.



D.

E.  None of the above.

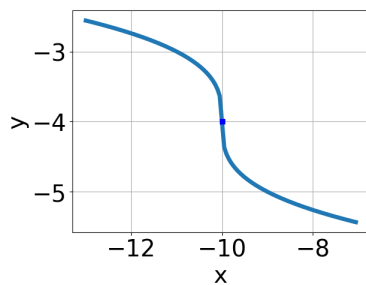4.  Choose the graph of the equation below.
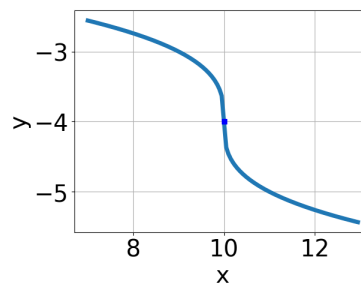
$$f(x) = \sqrt[3]{x + 10} - 4$$



A.



C.



B.



D.

E.  None of the above.

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

$$\sqrt{35x^2 - 16} - \sqrt{-8x} = 0$$

A.  $x_1 \in [-3.6, 0]$ and $x_2 \in [0.48, 0.59]$

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

C. $x \in [-3.6, 0]$

D. $x \in [-0.3, 1.3]$

E. $x_1 \in [-0.3, 1.3]$ and $x_2 \in [0.6, 0.89]$

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6. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.
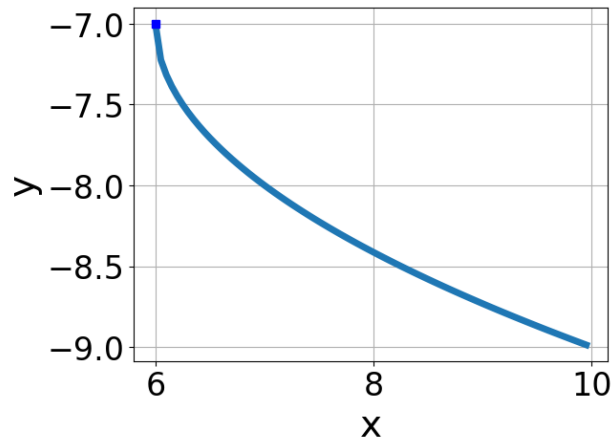
$$\sqrt{-9x - 3} - \sqrt{4x + 4} = 0$$

A. $x \in [-0.22, 0.19]$

B. $x_1 \in [-1.33, -0.64]$ and $x_2 \in [-1.33, 1.67]$

C. $x \in [-0.85, -0.51]$

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

E. $x_1 \in [-0.85, -0.51]$ and $x_2 \in [-1.33, 1.67]$

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7. What is the domain of the function below?
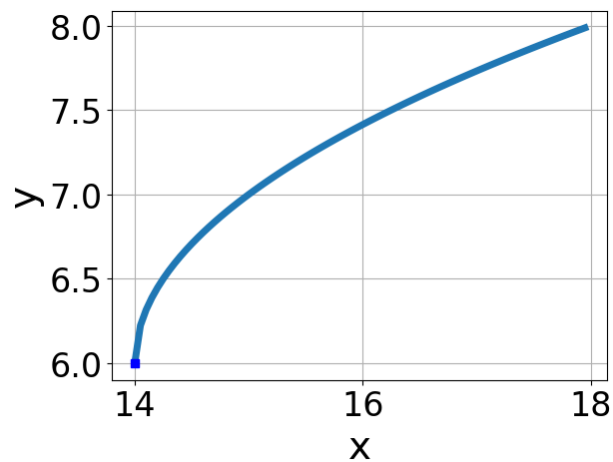
$$f(x) = \sqrt[7]{3x - 9}$$

A. The domain is $(-\infty, a]$, where $a \in [1.2, 4.8]$

B. The domain is $(-\infty, a]$, where $a \in [-0.1, 0.7]$

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

D. The domain is $[a, \infty)$, where $a \in [-2.67, 2.33]$

E. The domain is $[a, \infty)$, where $a \in [1, 6]$

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8. Choose the equation of the function graphed below.

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

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

C. $f(x) = -\sqrt[3]{x-6} - 7$

D. $f(x) = \sqrt[3]{x-6} - 7$

E. None of the above

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9. 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

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

$$\sqrt{-6x + 4} - \sqrt{5x - 5} = 0$$

    A. $x_1 \in [0.47, 0.74]$ and $x_2 \in [0.95, 1.22]$

    B. $x \in [-0.41, 0.22]$

    C. $x_1 \in [0.47, 0.74]$ and $x_2 \in [0.64, 0.89]$

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

    E. $x \in [0.8, 1.15]$