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

$$\sqrt{14x^2 - 56} - \sqrt{33x} = 0$$

A. $x \in [3.4, 5.4]$

B. $x_1 \in [-0.3, 2]$ and $x_2 \in [2.5, 4.5]$

C. $x_1 \in [-1.7, -0.6]$ and $x_2 \in [2.5, 4.5]$

D. All solutions lead to invalid or complex values in the equation.
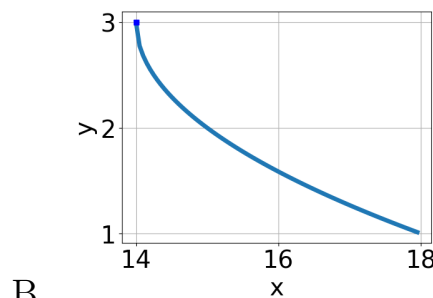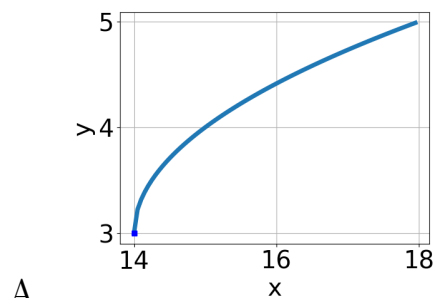
E. $x \in [-1.7, -0.6]$

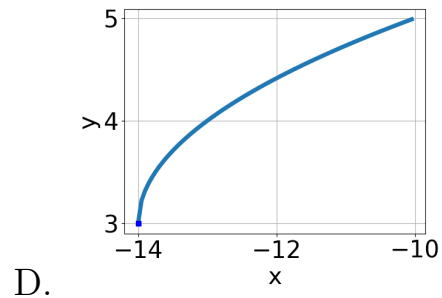2. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.
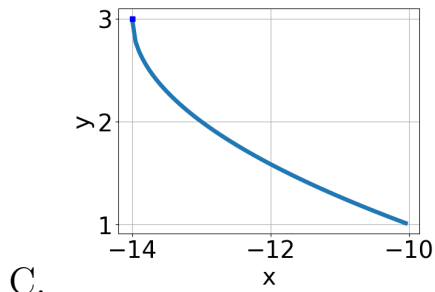
$$\sqrt{-6x^2 - 6} - \sqrt{-13x} = 0$$

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

B. $x_1 \in [-0.51, 1.26]$ and $x_2 \in [-0.4, 2.2]$

C. $x \in [1.42, 1.95]$

D. $x_1 \in [-1.42, -0.2]$ and $x_2 \in [-2.7, 0.6]$

E. $x \in [-0.51, 1.26]$

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3. Choose the graph of the equation below.

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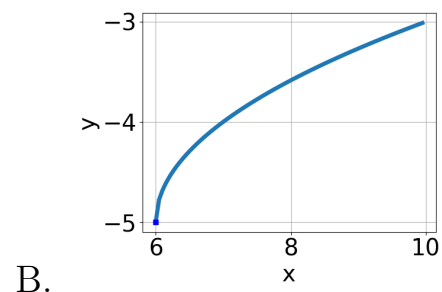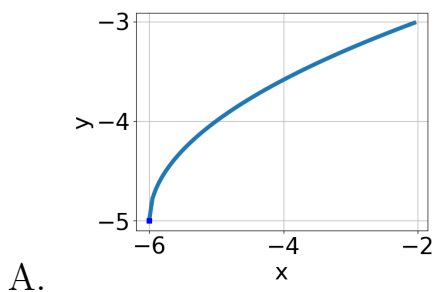

A.

B.

C.

D.

E. None of the above.
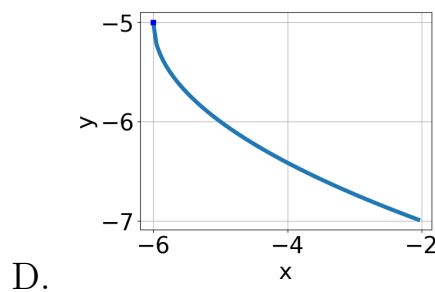
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4. What is the domain of the function below?
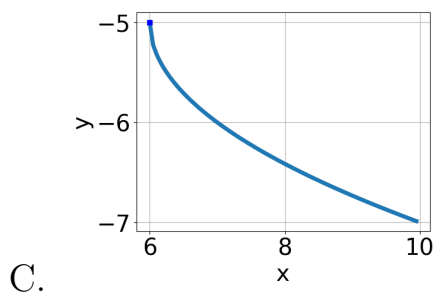
$$f(x) = \sqrt[7]{3x + 5}$$

A. The domain is $(-\infty, a]$, where $a \in [-0.63, -0.35]$

B. The domain is $[a, \infty)$, where $a \in [-2.13, -1.01]$

C. The domain is $[a, \infty)$, where $a \in [-0.72, 1.58]$

D. The domain is $(-\infty, a]$, where $a \in [-2.85, -1.22]$

E. $(-\infty, \infty)$
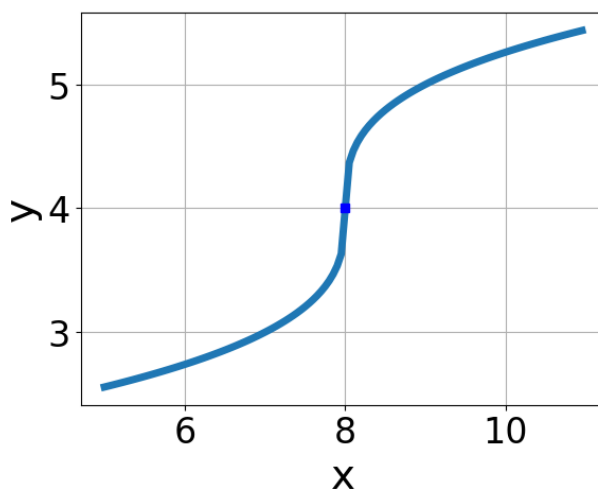
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5. Choose the graph of the equation below.

$$f(x) = -\sqrt{x - 6} - 5$$

A.

B.

C.

D.

E. None of the above.

---

6. Choose the equation of the function graphed below.

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

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

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

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

E. None of the above

---

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

$$\sqrt{-2x - 7} - \sqrt{8x - 6} = 0$$

A. $x_1 \in [-3.72, -2.78]$ and $x_2 \in [-0.53, 0.47]$

B. $x \in [-1.89, -0.2]$

C. $x \in [-0.86, 0.62]$

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

E. $x_1 \in [-3.72, -2.78]$ and $x_2 \in [0.58, 1.06]$

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8. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.
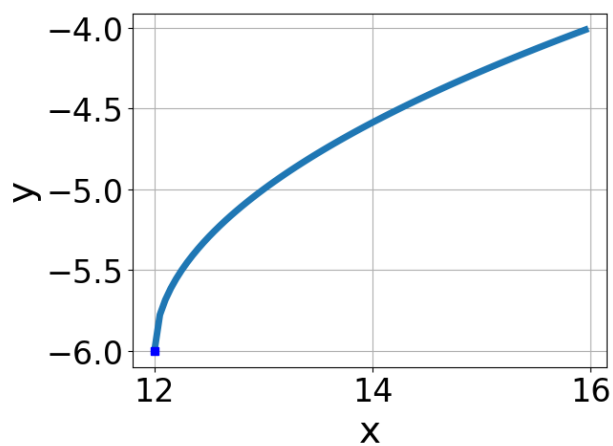
$$\sqrt{-5x - 5} - \sqrt{-4x + 7} = 0$$

A. $x_1 \in [-13.2, -10.1]$ and $x_2 \in [-3, 1]$

B. $x \in [-13.2, -10.1]$

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

D. $x_1 \in [-1.4, 1.2]$ and $x_2 \in [-0.25, 4.75]$

E. $x \in [1.9, 2.7]$

---

9. What is the domain of the function below?

$$f(x) = \sqrt[4]{4x - 9}$$

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

B. $[a, \infty),$ where $a \in [1.8, 2.7]$

C. $[a, \infty),$ where $a \in [0, 2.2]$

D. $(-\infty, a],$ where $a \in [-1.3, 1.2]$

E. $(-\infty, a],$ where $a \in [0.9, 3.1]$

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10. 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