

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

$$\frac{3}{-7x + 9} + -2 = \frac{9}{-42x + 54}$$

- A. All solutions lead to invalid or complex values in the equation.
- B. $x \in [0.18, 2.18]$
- C. $x_1 \in [0.2, 1.6]$ and $x_2 \in [1.45, 2.01]$
- D. $x \in [-2.1, -0.2]$
- E. $x_1 \in [-2.1, -0.2]$ and $x_2 \in [1.09, 1.32]$

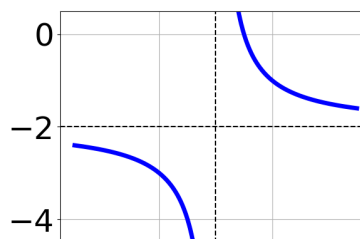
2. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{-2x}{-5x + 5} + \frac{-3x^2}{20x^2 - 20} = \frac{5}{-4x - 4}$$

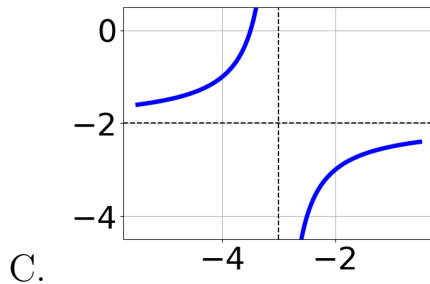
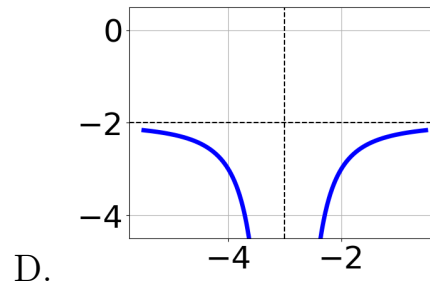
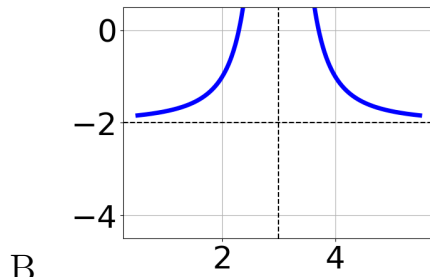
- A. $x_1 \in [-0.31, 5.69]$ and $x_2 \in [-3, 4]$
- B. All solutions lead to invalid or complex values in the equation.
- C. $x \in [-6, 0]$
- D. $x \in [-7.29, -3.29]$
- E. $x_1 \in [-0.31, 5.69]$ and $x_2 \in [-10.29, -4.29]$

3. Choose the graph of the equation below.

$$f(x) = \frac{1}{(x - 3)^2} - 2$$



A.



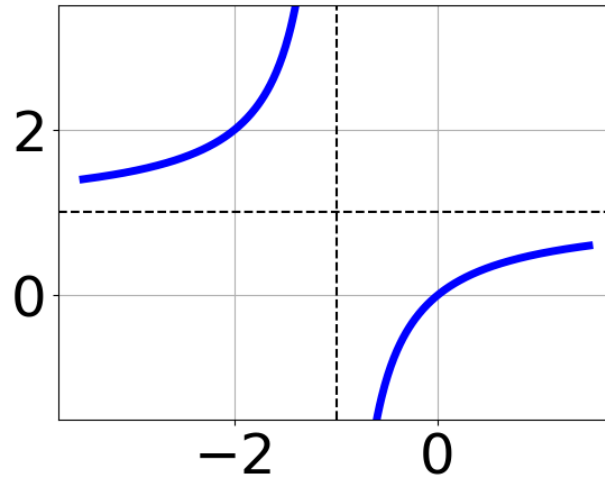
E. None of the above.

4. Determine the domain of the function below.

$$f(x) = \frac{3}{15x^2 + 43x + 30}$$

- A. All Real numbers except $x = a$, where $a \in [-30.13, -29.84]$
- B. All Real numbers.
- C. All Real numbers except $x = a$ and $x = b$, where $a \in [-1.67, -1.48]$ and $b \in [-1.3, -1.2]$
- D. All Real numbers except $x = a$, where $a \in [-1.67, -1.48]$
- E. All Real numbers except $x = a$ and $x = b$, where $a \in [-30.13, -29.84]$ and $b \in [-15.09, -14.76]$

5. Choose the equation of the function graphed below.



- A. $f(x) = \frac{-1}{(x+1)^2} + 1$
- B. $f(x) = \frac{-1}{x+1} + 1$
- C. $f(x) = \frac{1}{(x-1)^2} + 1$
- D. $f(x) = \frac{1}{x-1} + 1$
- E. None of the above

6. Determine the domain of the function below.

$$f(x) = \frac{6}{12x^2 - 25x + 12}$$

- A. All Real numbers.
- B. All Real numbers except $x = a$ and $x = b$, where $a \in [11.2, 12.4]$ and $b \in [11.2, 12.4]$
- C. All Real numbers except $x = a$ and $x = b$, where $a \in [0.2, 1.2]$ and $b \in [0.9, 2.1]$
- D. All Real numbers except $x = a$, where $a \in [11.2, 12.4]$
- E. All Real numbers except $x = a$, where $a \in [0.2, 1.2]$

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

$$\frac{3x}{-3x+3} + \frac{-7x^2}{-9x^2+30x-21} = \frac{-4}{3x-7}$$

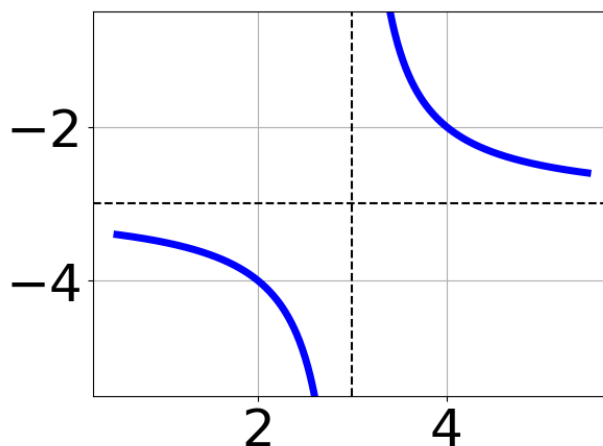
- A. $x \in [1.68, 2.41]$
- B. $x \in [15.89, 16.77]$
- C. $x_1 \in [-2.06, 1.97]$ and $x_2 \in [10.13, 24.13]$
- D. $x_1 \in [-2.06, 1.97]$ and $x_2 \in [-3, 7]$
- E. All solutions lead to invalid or complex values in the equation.

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

$$\frac{-9}{-8x-7} + 8 = \frac{-9}{-64x-56}$$

- A. $x \in [-2.0, 1.0]$
- B. $x_1 \in [-1, 0]$ and $x_2 \in [-2.1, 0.3]$
- C. All solutions lead to invalid or complex values in the equation.
- D. $x \in [0.75, 3.75]$
- E. $x_1 \in [-1, 0]$ and $x_2 \in [0.2, 0.9]$

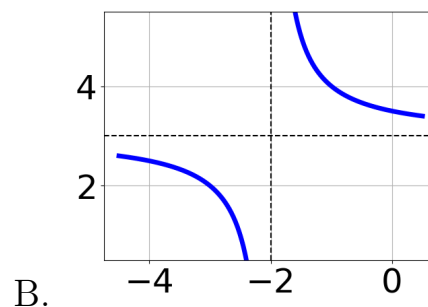
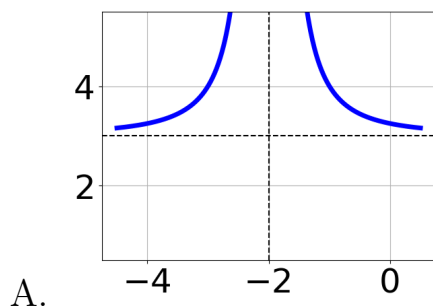
9. Choose the equation of the function graphed below.

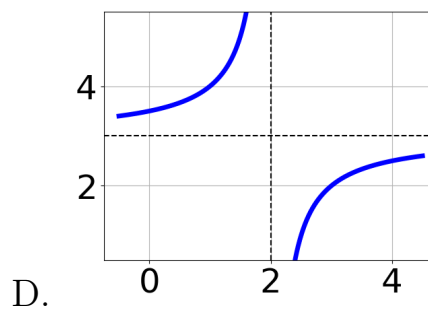
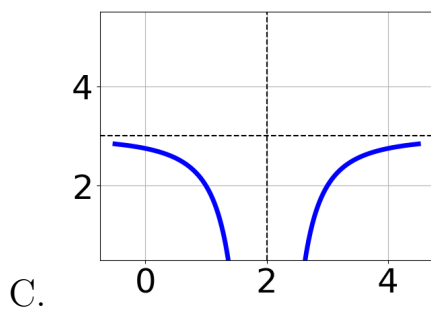


- A. $f(x) = \frac{-1}{x-3} - 3$
- B. $f(x) = \frac{1}{(x+3)^2} - 3$
- C. $f(x) = \frac{-1}{(x-3)^2} - 3$
- D. $f(x) = \frac{1}{x+3} - 3$
- E. None of the above

10. Choose the graph of the equation below.

$$f(x) = \frac{1}{x+2} + 3$$





E. None of the above.