

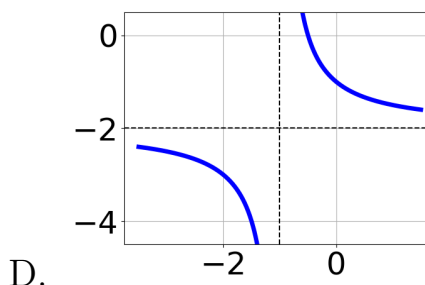
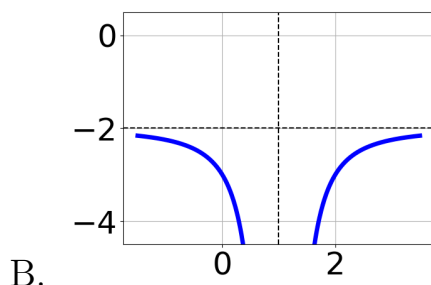
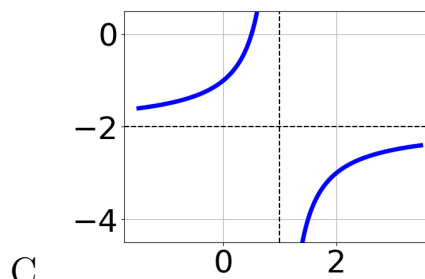
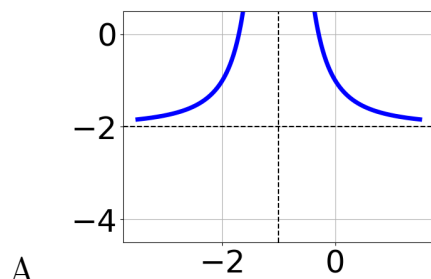
1. Determine the domain of the function below.

$$f(x) = \frac{6}{9x^2 + 6x - 15}$$

- A. All Real numbers except $x = a$, where $a \in [-1.9, -1]$
- B. All Real numbers.
- C. All Real numbers except $x = a$ and $x = b$, where $a \in [-1.9, -1]$ and $b \in [0.6, 1.8]$
- D. All Real numbers except $x = a$ and $x = b$, where $a \in [-16.3, -14.1]$ and $b \in [8.4, 9.6]$
- E. All Real numbers except $x = a$, where $a \in [-16.3, -14.1]$
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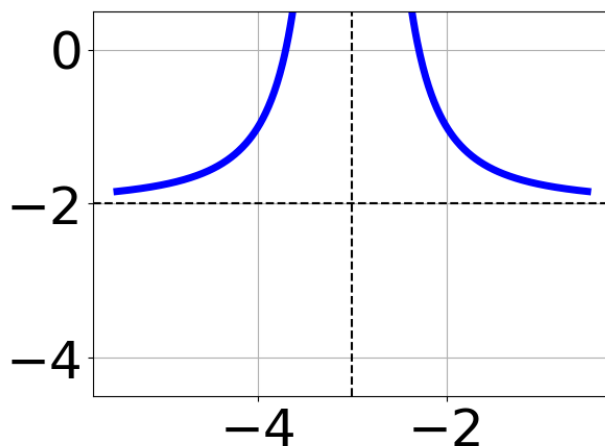
2. Choose the graph of the equation below.

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



- E. None of the above.
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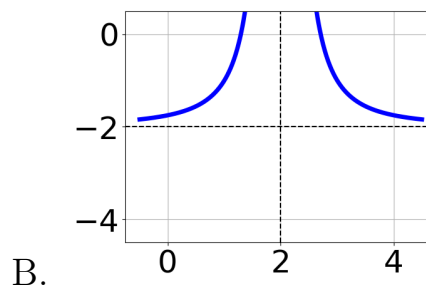
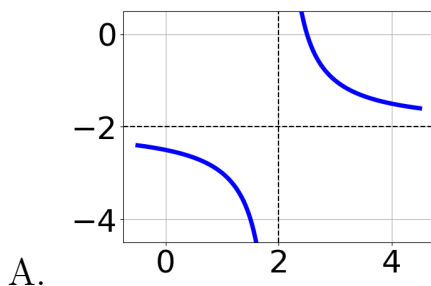
3. Choose the equation of the function graphed below.

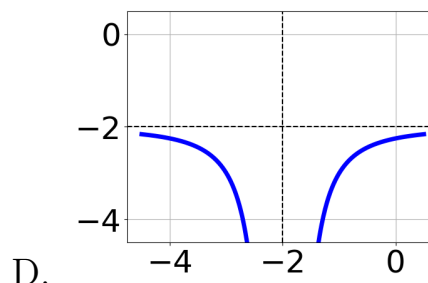
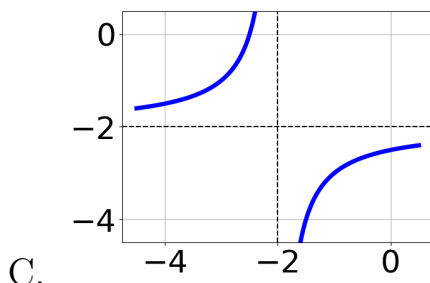


- A. $f(x) = \frac{1}{(x+3)^2} - 2$
- B. $f(x) = \frac{-1}{(x-3)^2} - 2$
- C. $f(x) = \frac{1}{x+3} - 2$
- D. $f(x) = \frac{-1}{x-3} - 2$
- E. None of the above

4. Choose the graph of the equation below.

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





E. None of the above.

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

$$\frac{3}{-4x + 7} + -7 = \frac{-3}{-20x + 35}$$

- A. $x \in [1.62, 2.62]$
- B. $x_1 \in [-1.94, -1.82]$ and $x_2 \in [1.62, 3.62]$
- C. $x_1 \in [1.49, 1.62]$ and $x_2 \in [1.62, 3.62]$
- D. $x \in [-1.94, -1.82]$
- E. All solutions lead to invalid or complex values in the equation.

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

$$\frac{-6x}{-7x - 3} + \frac{-5x^2}{42x^2 - 24x - 18} = \frac{-4}{-6x + 6}$$

- A. $x_1 \in [-0.94, 0.1]$ and $x_2 \in [0.2, 3.1]$
- B. $x \in [0.59, 1.17]$
- C. $x_1 \in [-0.94, 0.1]$ and $x_2 \in [-2.5, 0.8]$
- D. $x \in [1.58, 2.73]$
- E. All solutions lead to invalid or complex values in the equation.

7. Determine the domain of the function below.

$$f(x) = \frac{6}{15x^2 + 48x + 36}$$

- A. All Real numbers except $x = a$ and $x = b$, where $a \in [-2.81, -1.6]$ and $b \in [-1.38, -0.99]$
 - B. All Real numbers except $x = a$, where $a \in [-2.81, -1.6]$
 - C. All Real numbers except $x = a$ and $x = b$, where $a \in [-30.07, -29.63]$ and $b \in [-18.33, -17.26]$
 - D. All Real numbers except $x = a$, where $a \in [-30.07, -29.63]$
 - E. All Real numbers.
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8. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{7}{-7x + 2} + -4 = \frac{2}{14x - 4}$$

- A. $x \in [-1.07, -0.45]$
 - B. $x \in [-1.0, 1.0]$
 - C. $x_1 \in [-1.07, -0.45]$ and $x_2 \in [-0.24, 0.04]$
 - D. $x_1 \in [-0.52, 0.2]$ and $x_2 \in [0.08, 0.19]$
 - E. All solutions lead to invalid or complex values in the equation.
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9. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

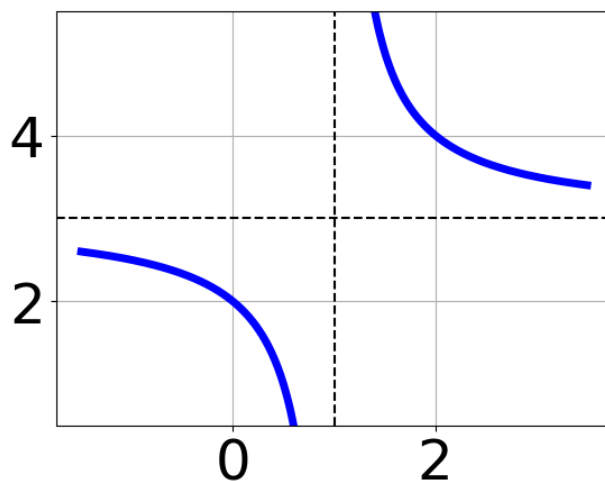
$$\frac{5x}{3x - 5} + \frac{-6x^2}{-9x^2 - 3x + 30} = \frac{4}{-3x - 6}$$

- A. All solutions lead to invalid or complex values in the equation.
- B. $x \in [-2.3, -1.44]$
- C. $x_1 \in [-0.36, 1.22]$ and $x_2 \in [-0.33, 2.67]$

D. $x \in [-3.05, -2.04]$

E. $x_1 \in [-0.36, 1.22]$ and $x_2 \in [-4.4, 1.6]$

10. Choose the equation of the function graphed below.



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

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

C. $f(x) = \frac{-1}{x+1} + 3$

D. $f(x) = \frac{1}{x-1} + 3$

E. None of the above