

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

$$\frac{-16}{16x - 48} + 1 = \frac{-16}{16x - 48}$$

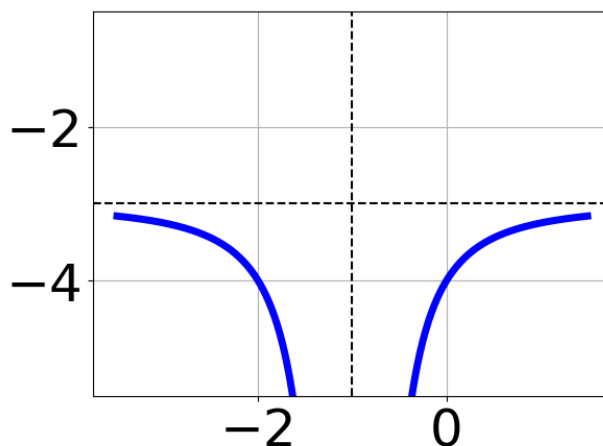
- A. $x_1 \in [2, 5]$ and $x_2 \in [3, 5]$
- B. $x_1 \in [-3, -1]$ and $x_2 \in [3, 5]$
- C. $x \in [3.0, 4.0]$
- D. $x \in [-3, -1]$
- E. All solutions lead to invalid or complex values in the equation.

2. Determine the domain of the function below.

$$f(x) = \frac{4}{20x^2 + 9x - 18}$$

- A. All Real numbers except $x = a$, where $a \in [-2.2, -0.2]$
- B. All Real numbers.
- C. All Real numbers except $x = a$ and $x = b$, where $a \in [-2.2, -0.2]$ and $b \in [0.75, 1.75]$
- D. All Real numbers except $x = a$, where $a \in [-32, -27]$
- E. All Real numbers except $x = a$ and $x = b$, where $a \in [-32, -27]$ and $b \in [10, 15]$

3. Choose the equation of the function graphed below.



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

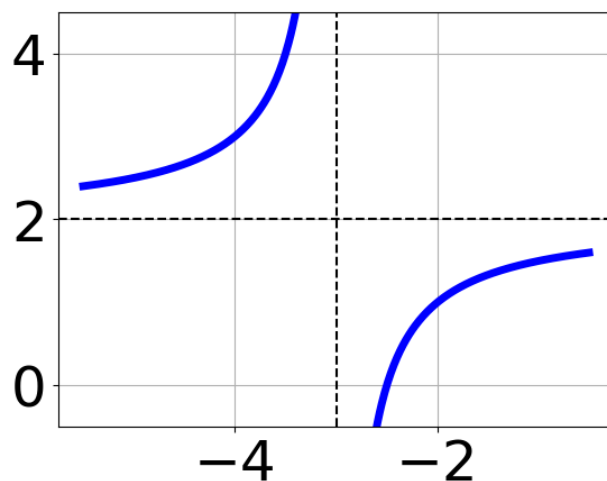
B. $f(x) = \frac{1}{(x-1)^2} - 3$

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

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

E. None of the above

4. Choose the equation of the function graphed below.



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

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

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

$$\frac{-4x}{2x+2} + \frac{-7x^2}{8x^2-2x-10} = \frac{-4}{4x-5}$$

- A. $x_1 \in [-0.28, -0.05]$ and $x_2 \in [0.4, 2.6]$
- B. All solutions lead to invalid or complex values in the equation.
- C. $x \in [1.01, 1.25]$
- D. $x_1 \in [-0.28, -0.05]$ and $x_2 \in [-2.6, -0.4]$
- E. $x \in [1.42, 1.57]$

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

$$\frac{126}{28x+42} + 1 = \frac{126}{28x+42}$$

- A. $x \in [0.5, 2.5]$
- B. $x_1 \in [-1.5, -0.5]$ and $x_2 \in [1.5, 3.5]$
- C. All solutions lead to invalid or complex values in the equation.
- D. $x_1 \in [-1.5, -0.5]$ and $x_2 \in [-1.5, 0.5]$
- E. $x \in [-1.5, 1.5]$

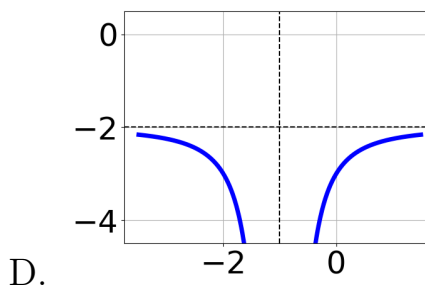
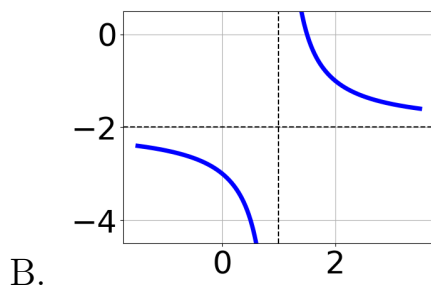
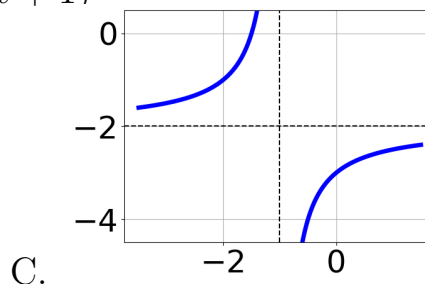
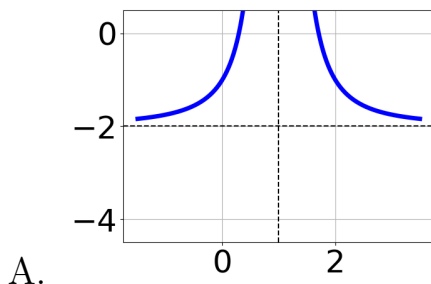
7. Determine the domain of the function below.

$$f(x) = \frac{5}{24x^2 - 56x + 30}$$

- A. All Real numbers except $x = a$ and $x = b$, where $a \in [0.69, 1.28]$ and $b \in [1.49, 1.83]$
- B. All Real numbers except $x = a$, where $a \in [0.69, 1.28]$
- C. All Real numbers except $x = a$ and $x = b$, where $a \in [23.24, 24.27]$ and $b \in [29.78, 30.32]$
- D. All Real numbers except $x = a$, where $a \in [23.24, 24.27]$
- E. All Real numbers.

8. Choose the graph of the equation below.

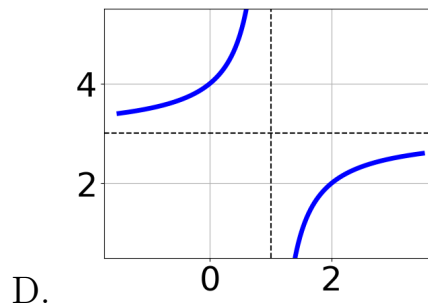
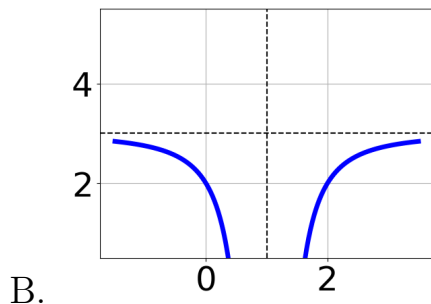
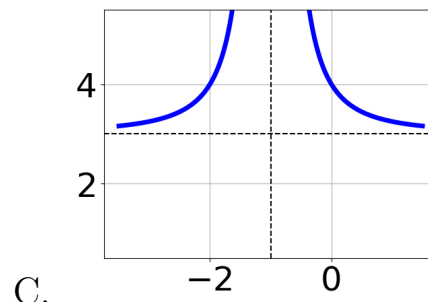
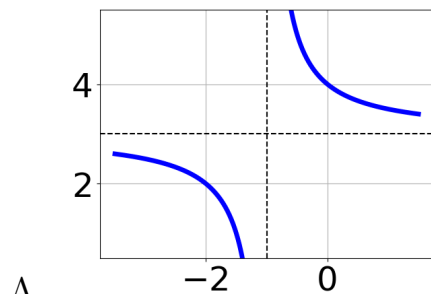
$$f(x) = \frac{1}{(x+1)^2} + 2$$



E. None of the above.

9. Choose the graph of the equation below.

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



E. None of the above.

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

$$\frac{-5x}{-4x - 6} + \frac{-2x^2}{16x^2 + 40x + 24} = \frac{-6}{-4x - 4}$$

- A. $x_1 \in [-1.44, -1.06]$ and $x_2 \in [-3.5, 1.5]$
- B. $x \in [-1.07, -0.22]$
- C. $x_1 \in [-1.44, -1.06]$ and $x_2 \in [1.53, 2.53]$
- D. All solutions lead to invalid or complex values in the equation.
- E. $x \in [0.79, 1.78]$