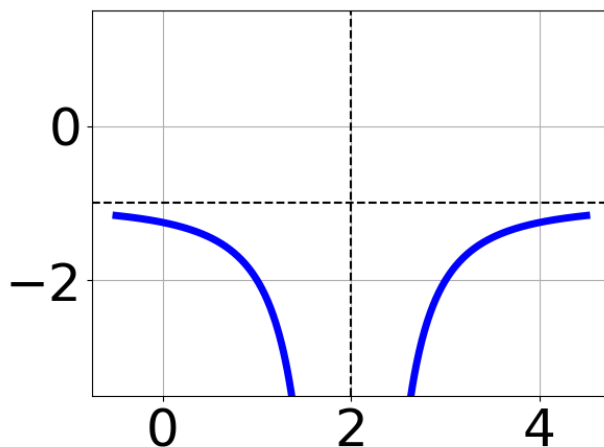


1. Choose the equation of the function graphed below.



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

- 
2. Determine the domain of the function below.

$$f(x) = \frac{6}{18x^2 - 33x + 15}$$

- A. All Real numbers except  $x = a$ , where  $a \in [8.96, 9.38]$
- B. All Real numbers except  $x = a$  and  $x = b$ , where  $a \in [0.55, 0.95]$  and  $b \in [0.97, 1.34]$
- C. All Real numbers except  $x = a$ , where  $a \in [0.55, 0.95]$
- D. All Real numbers except  $x = a$  and  $x = b$ , where  $a \in [8.96, 9.38]$  and  $b \in [29.96, 30.21]$
- E. All Real numbers.

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

$$\frac{-6x}{-3x+3} + \frac{-3x^2}{-18x^2-3x+21} = \frac{-3}{6x+7}$$

- A. All solutions lead to invalid or complex values in the equation.
- B.  $x \in [-1.17, -0.67]$
- C.  $x \in [-1.48, -1.27]$
- D.  $x_1 \in [0.08, 0.17]$  and  $x_2 \in [-5.1, -1.4]$
- E.  $x_1 \in [0.08, 0.17]$  and  $x_2 \in [-0.9, 3.5]$

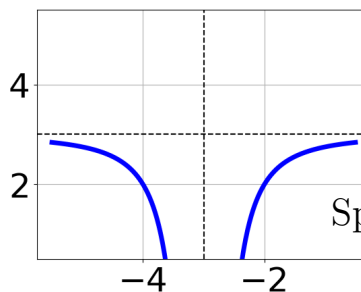
4. Determine the domain of the function below.

$$f(x) = \frac{3}{18x^2 + 45x + 18}$$

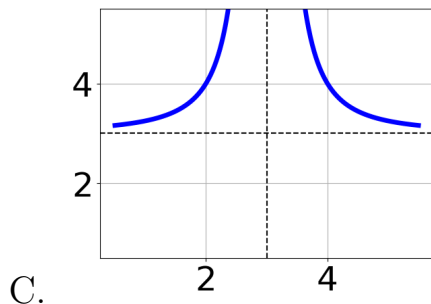
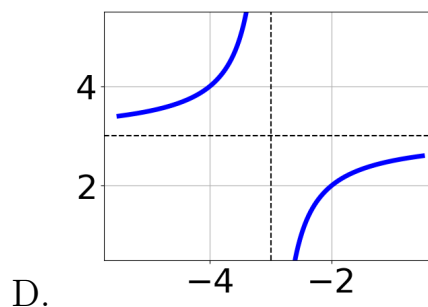
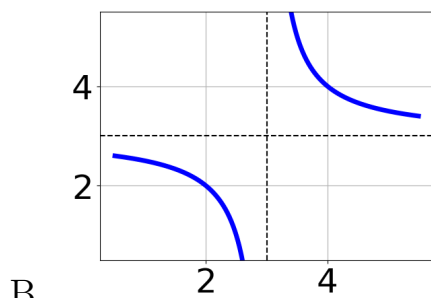
- A. All Real numbers except  $x = a$  and  $x = b$ , where  $a \in [-19, -14]$  and  $b \in [-19, -14]$
- B. All Real numbers except  $x = a$ , where  $a \in [-2, -1]$
- C. All Real numbers except  $x = a$ , where  $a \in [-19, -14]$
- D. All Real numbers except  $x = a$  and  $x = b$ , where  $a \in [-2, -1]$  and  $b \in [-1.5, 5.5]$
- E. All Real numbers.

5. Choose the graph of the equation below.

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

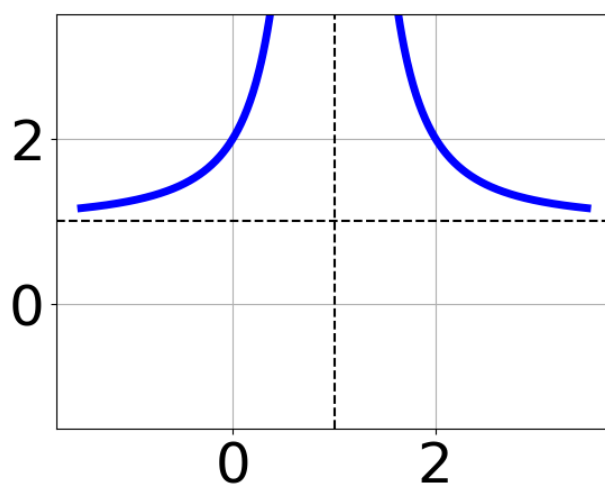


A.



E. None of the above.

6. Choose the equation of the function graphed below.



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

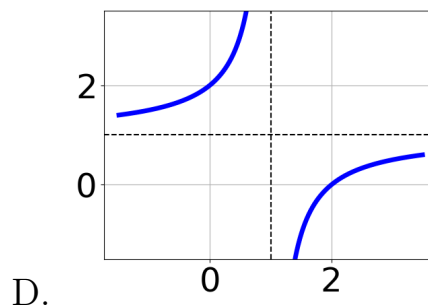
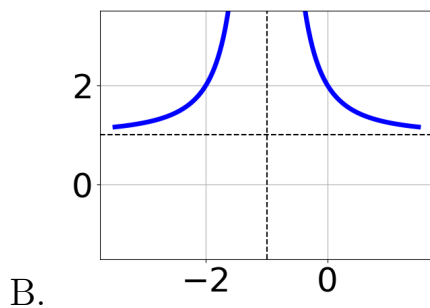
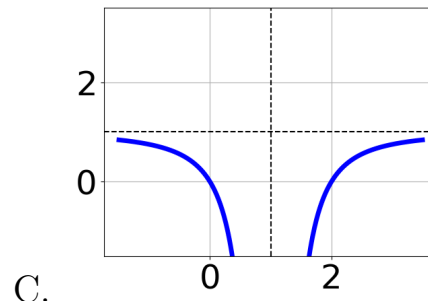
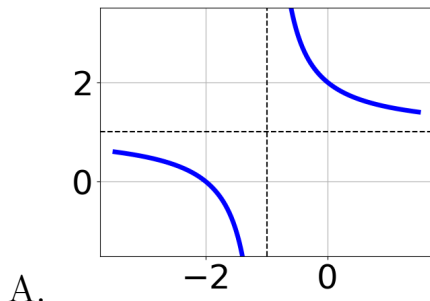
B.  $f(x) = \frac{-1}{(x-1)^2} + 1$

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

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

7. Choose the graph of the equation below.

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



- E. None of the above.

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

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

- A.  $x \in [-0.22, 0.78]$
- B.  $x \in [0, 0.35]$
- C.  $x_1 \in [-0.43, 0.1]$  and  $x_2 \in [0.17, 0.33]$
- D. All solutions lead to invalid or complex values in the equation.

---

E.  $x_1 \in [-0.43, 0.1]$  and  $x_2 \in [-0.28, -0.06]$

---

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

$$\frac{-7x}{5x-7} + \frac{-2x^2}{-15x^2+56x-49} = \frac{6}{-3x+7}$$

- A.  $x_1 \in [0.28, 0.85]$  and  $x_2 \in [1.53, 5.53]$   
B. All solutions lead to invalid or complex values in the equation.  
C.  $x_1 \in [0.28, 0.85]$  and  $x_2 \in [-0.6, 2.4]$   
D.  $x \in [2.72, 4.2]$   
E.  $x \in [1.99, 3.46]$
- 

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

$$\frac{-7}{5x-4} + 7 = \frac{6}{-10x+8}$$

- A. All solutions lead to invalid or complex values in the equation.  
B.  $x_1 \in [0.91, 4.91]$  and  $x_2 \in [0.92, 1.53]$   
C.  $x_1 \in [-2.69, 0.31]$  and  $x_2 \in [0.8, 1.16]$   
D.  $x \in [0.91, 1.91]$   
E.  $x \in [-2.69, 0.31]$
-