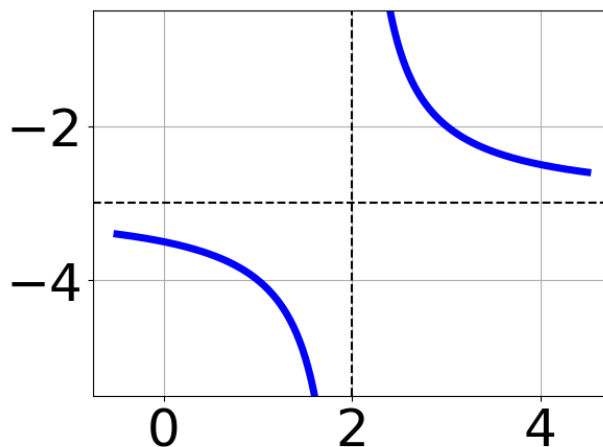


1. Choose the equation of the function graphed below.



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

- 
2. Determine the domain of the function below.

$$f(x) = \frac{6}{24x^2 - 60x + 36}$$

- A. All Real numbers except  $x = a$ , where  $a \in [0.5, 1.3]$   
B. All Real numbers except  $x = a$  and  $x = b$ , where  $a \in [0.5, 1.3]$  and  $b \in [1.2, 1.6]$   
C. All Real numbers except  $x = a$ , where  $a \in [23, 24.6]$   
D. All Real numbers.  
E. All Real numbers except  $x = a$  and  $x = b$ , where  $a \in [23, 24.6]$  and  $b \in [35.8, 37.4]$

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

$$\frac{7x}{3x-6} + \frac{-7x^2}{18x^2-57x+42} = \frac{-7}{6x-7}$$

- A.  $x_1 \in [-0.92, -0.74]$  and  $x_2 \in [1.01, 1.73]$
- B. All solutions lead to invalid or complex values in the equation.
- C.  $x \in [0.61, 1.18]$
- D.  $x \in [1.39, 1.65]$
- E.  $x_1 \in [-0.92, -0.74]$  and  $x_2 \in [1.81, 2.66]$

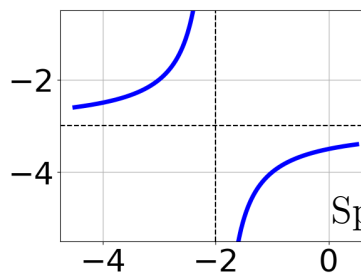
4. Determine the domain of the function below.

$$f(x) = \frac{4}{9x^2 + 33x + 30}$$

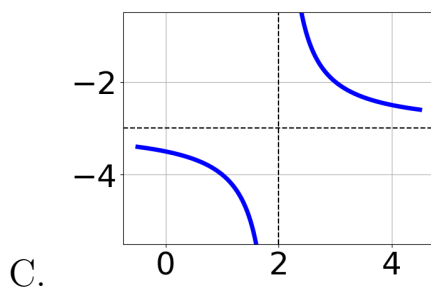
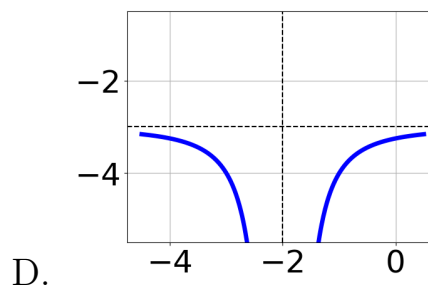
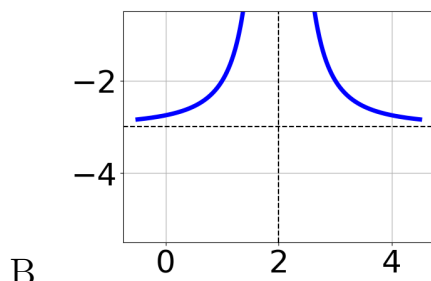
- A. All Real numbers except  $x = a$  and  $x = b$ , where  $a \in [-18.56, -17.7]$  and  $b \in [-15.63, -14.7]$
- B. All Real numbers except  $x = a$  and  $x = b$ , where  $a \in [-2.39, -2]$  and  $b \in [-1.67, -1.5]$
- C. All Real numbers except  $x = a$ , where  $a \in [-2.39, -2]$
- D. All Real numbers.
- E. All Real numbers except  $x = a$ , where  $a \in [-18.56, -17.7]$

5. Choose the graph of the equation below.

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

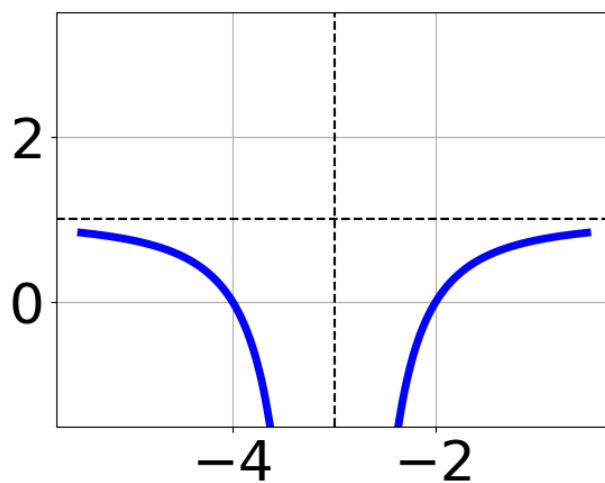


A.



E. None of the above.

6. Choose the equation of the function graphed below.



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

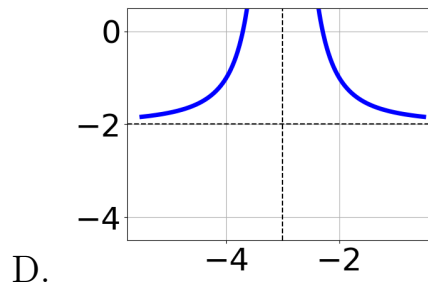
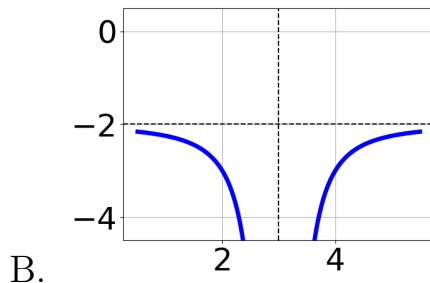
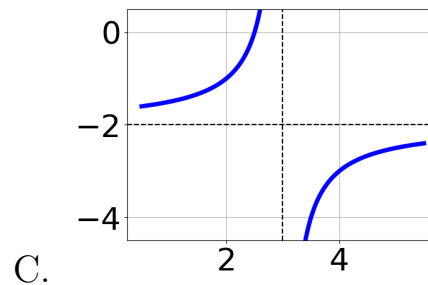
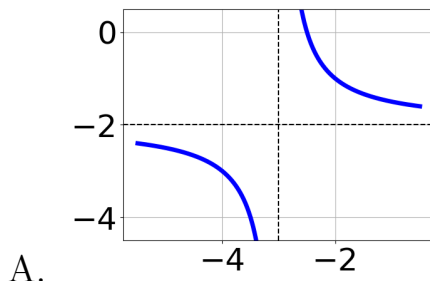
B.  $f(x) = \frac{-1}{x+3} + 1$

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

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

7. Choose the graph of the equation below.

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



- E. None of the above.

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

$$\frac{7}{8x-6} + -7 = \frac{-6}{48x-36}$$

- A.  $x \in [0.89, 1.89]$
- B. All solutions lead to invalid or complex values in the equation.
- C.  $x \in [-0.61, 0.39]$
- D.  $x_1 \in [-0.11, 2.89]$  and  $x_2 \in [0.94, 1.02]$
- E.  $x_1 \in [-0.61, 0.39]$  and  $x_2 \in [0.77, 0.94]$

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

$$\frac{6x}{2x-3} + \frac{-7x^2}{-10x^2+27x-18} = \frac{5}{-5x+6}$$

- A. All solutions lead to invalid or complex values in the equation.  
B.  $x_1 \in [-0.42, -0.15]$  and  $x_2 \in [1.32, 1.56]$   
C.  $x_1 \in [-0.42, -0.15]$  and  $x_2 \in [1.01, 1.22]$   
D.  $x \in [1.2, 1.47]$   
E.  $x \in [1, 1.1]$
- 

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

$$\frac{25}{45x+45} + 1 = \frac{25}{45x+45}$$

- A.  $x_1 \in [-3, 0]$  and  $x_2 \in [0.8, 1.4]$   
B. All solutions lead to invalid or complex values in the equation.  
C.  $x_1 \in [-3, 0]$  and  $x_2 \in [-1.6, -0.6]$   
D.  $x \in [0, 2]$   
E.  $x \in [-1.0, 1.0]$
-