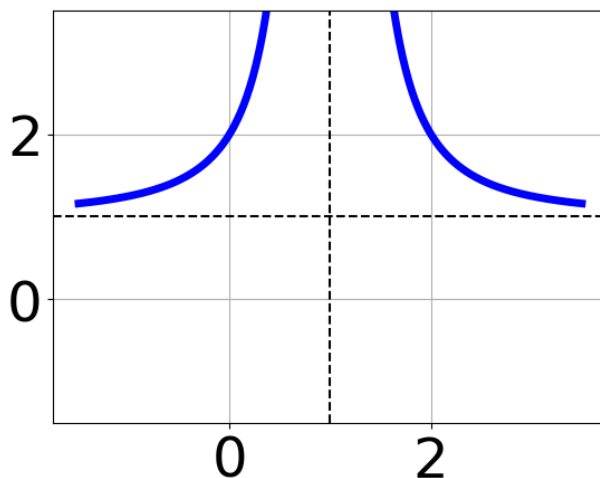1. Determine the domain of the function below.

$$f(x) = \frac{6}{18x^2 + 36x + 16}$$

A. All Real numbers except $x = a$ and $x = b$, where $a \in [-24.4, -22.8]$ and $b \in [-12.1, -11.9]$

B. All Real numbers except $x = a$ and $x = b$, where $a \in [-2.3, -0.9]$ and $b \in [-0.9, 0.9]$

C. All Real numbers except $x = a$, where $a \in [-24.4, -22.8]$

D. All Real numbers.

E. All Real numbers except $x = a$, where $a \in [-2.3, -0.9]$
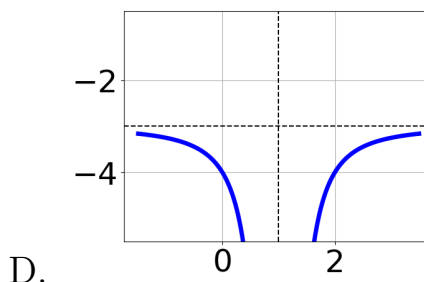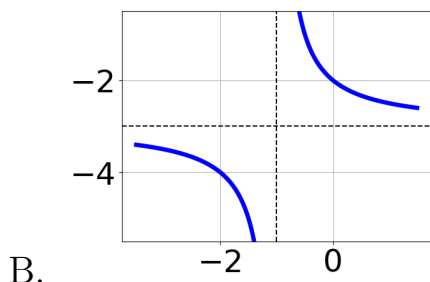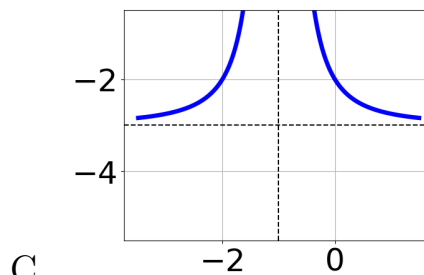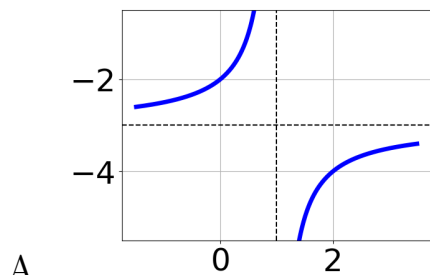
2. Choose the equation of the function graphed below.

A. $f(x) = \dfrac{1}{x - 1} - 4$

B. $f(x) = \dfrac{-1}{(x + 1)^2} - 4$

C. $f(x) = \dfrac{-1}{x + 1} - 4$

D. $f(x) = \dfrac{1}{(x - 1)^2} - 4$

E. None of the above

3. Choose the graph of the equation below.

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

A.

B.

C.

D.

E. None of the above.

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

$$\frac{-40}{-20x - 60} + 1 = \frac{-40}{-20x - 60}$$

A. $x_1 \in [-4, -1]$ and $x_2 \in [2, 4]$

B. All solutions lead to invalid or complex values in the equation.

C. $x \in [1, 4]$

D. $x \in [-4.0, 0.0]$

E. $x_1 \in [-4, -1]$ and $x_2 \in [-4, -2]$

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

$$\frac{5x}{6x-3} + \frac{-5x^2}{12x^2-48x+21} = \frac{-7}{2x-7}$$

A. $x_1 \in [0.8, 2.4]$ and $x_2 \in [-1.6, 3.3]$

B. $x_1 \in [0.8, 2.4]$ and $x_2 \in [-3.6, -0.8]$

C. All solutions lead to invalid or complex values in the equation.

D. $x \in [2.8, 3.8]$

E. $x \in [-4.4, 0.6]$