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

$$\frac{81}{72x+36}+1=\frac{81}{72x+36}$$

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

B. $x \in [0.3, 1.5]$

C. $x_1 \in [-0.6, -0.3]$ and $x_2 \in [-0.2, 0.7]$

D. $x \in [-0.5, 0.5]$

E. $x_1 \in [-0.6, -0.3]$ and $x_2 \in [-0.7, -0.3]$

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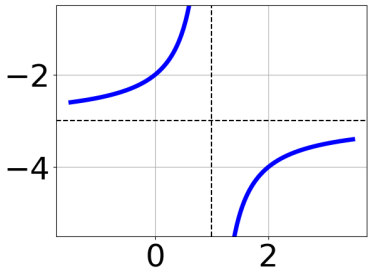
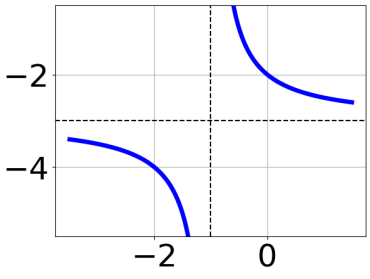
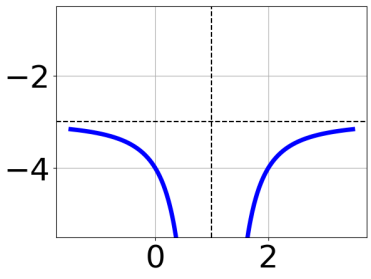
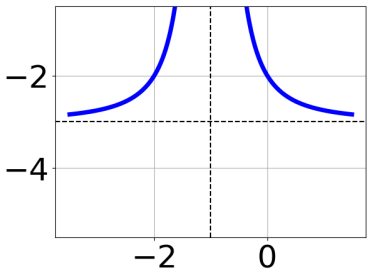
2. Choose the graph of the equation below.

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

A.


C.


B.


D.


E. None of the above.

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

$$\frac{24}{-96x+24}+1=\frac{24}{-96x+24}$$

A. $x \in [0.25, 1.25]$

B. $x \in [-0.3, 0.2]$

C. $x_1 \in [-0.3, 0.2]$ and $x_2 \in [0.25, 1.25]$

D. $x_1 \in [-0.2, 0.7]$ and $x_2 \in [0.25, 1.25]$

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

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4. Determine the domain of the function below.

$$f(x) = \frac{3}{16x^2 - 32x + 15}$$

A. All Real numbers except $x = a$ and $x = b$, where $a \in [11.95, 12.24]$ and $b \in [19.77, 20.21]$

B. All Real numbers except $x = a$, where $a \in [0.61, 0.94]$

C. All Real numbers.

D. All Real numbers except $x = a$, where $a \in [11.95, 12.24]$

E. All Real numbers except $x = a$ and $x = b$, where $a \in [0.61, 0.94]$ and $b \in [0.99, 1.38]$

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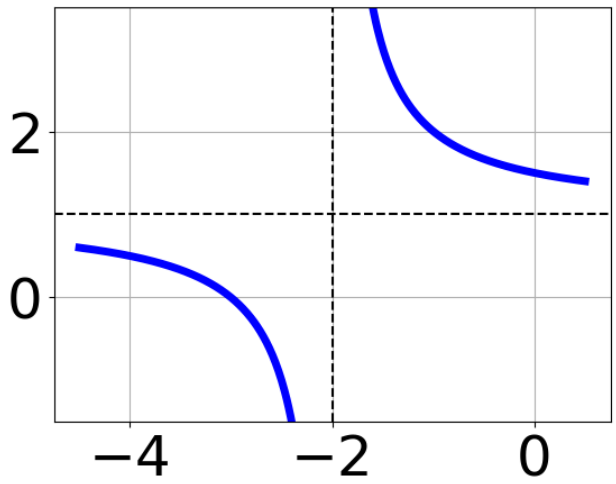
5. Choose the equation of the function graphed below.



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

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

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

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

E. None of the above

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6. Determine the domain of the function below.

$$f(x) = \frac{5}{30x^2 - 11x - 30}$$

A. All Real numbers except $x = a$, where $a \in [-2.5, -0.3]$

B. All Real numbers.

C. All Real numbers except $x = a$, where $a \in [-31.8, -28.2]$

D. All Real numbers except $x = a$ and $x = b$, where $a \in [-31.8, -28.2]$ and $b \in [29.8, 30.3]$

E. All Real numbers except $x = a$ and $x = b$, where $a \in [-2.5, -0.3]$ and $b \in [0.1, 1.6]$

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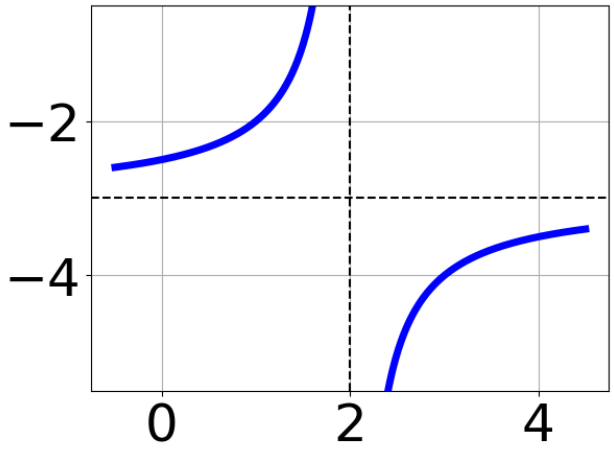
7. Choose the equation of the function graphed below.



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

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

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

D. $f(x) = \dfrac{-1}{(x-2)^2} - 3$

E. None of the above

---

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

$$\frac{-2x}{-2x+5} + \frac{-3x^2}{14x^2-25x-25} = \frac{5}{-7x-5}$$

A. $x_1 \in [0.22, 0.9]$ and $x_2 \in [-1.5, 7.5]$

B. $x \in [-1.58, -0.08]$

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

D. $x \in [-2.96, -2.39]$

E. $x_1 \in [0.22, 0.9]$ and $x_2 \in [-7.67, -1.67]$

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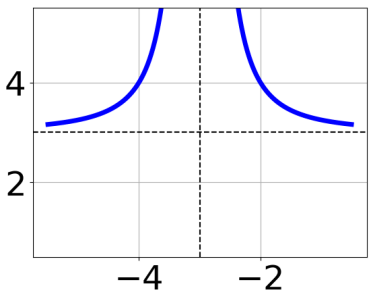
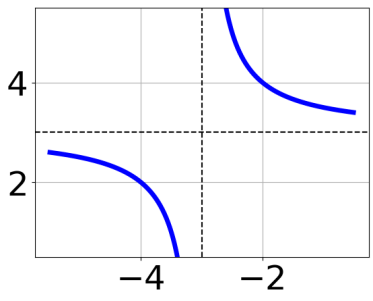
9. Choose the graph of the equation below.

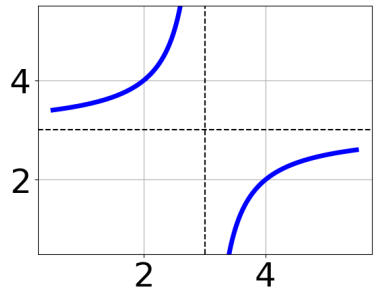
$$f(x) = \frac{-1}{x+3} + 3$$

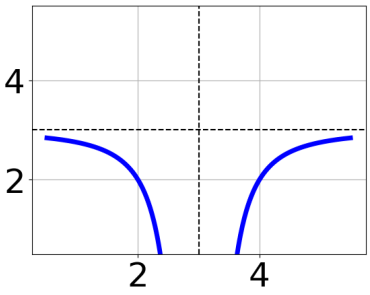
A.



B.



C. 

D. 

E. None of the above.

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

$$\frac{-6x}{6x+6} + \frac{-4x^2}{12x^2+48x+36} = \frac{-4}{2x+6}$$

A. $x_1 \in [-0.5, 2]$ and $x_2 \in [-3.42, -1.05]$

B. $x \in [-1.8, 0.1]$

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

D. $x \in [-4.4, -2.9]$

E. $x_1 \in [-0.5, 2]$ and $x_2 \in [-1.21, -0.49]$
