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

$$\frac{-7}{7x-4} + -3 = \frac{9}{14x-8}$$

A. $x \in [0.02, 1.02]$

B. $x_1 \in [-0.42, -0.08]$ and $x_2 \in [0.02, 2.02]$

C. $x \in [-1.44, -0.83]$

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

E. $x_1 \in [-1.44, -0.83]$ and $x_2 \in [0.02, 2.02]$

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2. Determine the domain of the function below.

$$f(x) = \frac{4}{36x^2 + 54x + 20}$$

A. All Real numbers except $x = a,$ where $a \in [-30.46, -29.67]$

B. All Real numbers except $x = a,$ where $a \in [-0.86, -0.7]$

C. All Real numbers except $x = a$ and $x = b,$ where $a \in [-0.86, -0.7]$ and $b \in [-0.74, -0.41]$

D. All Real numbers.

E. All Real numbers except $x = a$ and $x = b,$ where $a \in [-30.46, -29.67]$ and b $[-24.38, -23.98]$

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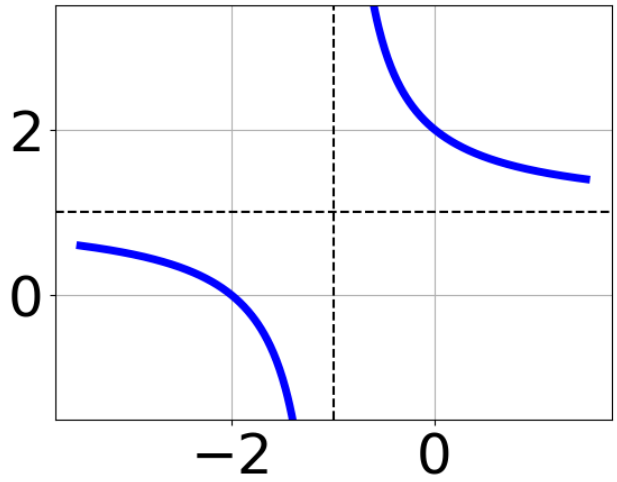
3. Choose the equation of the function graphed below.



A. $f(x) = \dfrac{1}{(x+1)^2} + 6$

B. $f(x) = \dfrac{-1}{x-1} + 6$

C. $f(x) = \dfrac{1}{x+1} + 6$

D. $f(x) = \dfrac{-1}{(x-1)^2} + 6$

E. None of the above

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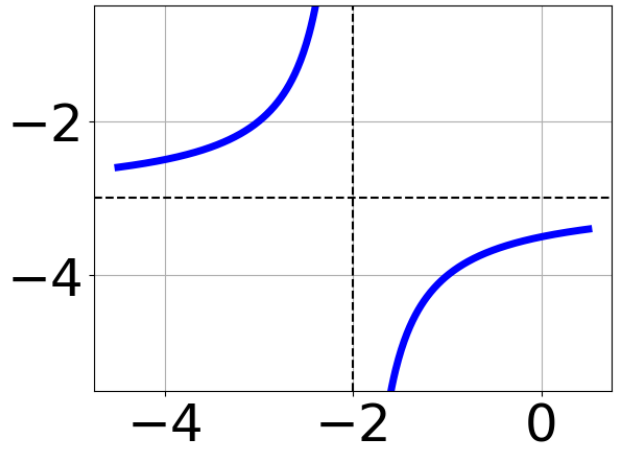
4. Choose the equation of the function graphed below.



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

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

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

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

E. None of the above

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

$$\frac{-2x}{4x+6} + \frac{-4x^2}{8x^2+28x+24} = \frac{-5}{2x+4}$$

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

B. $x_1 \in [-1.42, -0.95]$ and $x_2 \in [-5.5, 2.5]$

C. $x_1 \in [-1.42, -0.95]$ and $x_2 \in [-1.17, 9.83]$

D. $x \in [-2.03, -1.7]$

E. $x \in [2.73, 3.17]$

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

$$\frac{-25}{35x-45} + 1 = \frac{-25}{35x-45}$$

A. $x_1 \in [-1.29, -0.29]$ and $x_2 \in [-0.71, 2.29]$

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

C. $x \in [1.29, 3.29]$

D. $x_1 \in [-0.71, 3.29]$ and $x_2 \in [-0.71, 2.29]$

E. $x \in [-1.29, -0.29]$

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7. Determine the domain of the function below.

$$f(x) = \frac{4}{36x^2 + 42x + 12}$$

A. All Real numbers except $x = a$, where $a \in [-24.32, -23.59]$

B. All Real numbers.

C. All Real numbers except $x = a$, where $a \in [-1.24, -0.57]$

D. All Real numbers except $x = a$ and $x = b$, where $a \in [-1.24, -0.57]$ and $b \in [-0.52, -0.08]$

E. All Real numbers except $x = a$ and $x = b$, where $a \in [-24.32, -23.59]$ and b $[-18.32, -17.62]$

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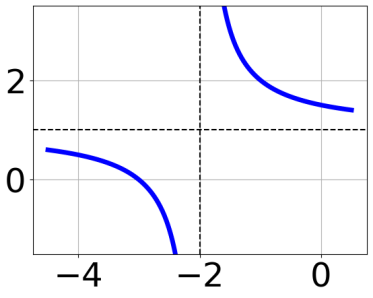
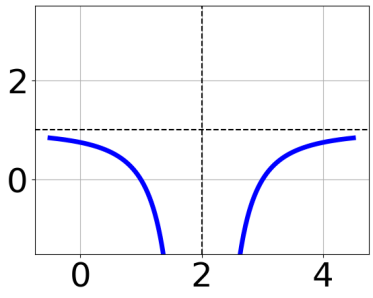
8. Choose the graph of the equation below.

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

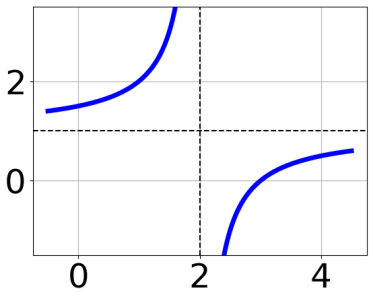
A.



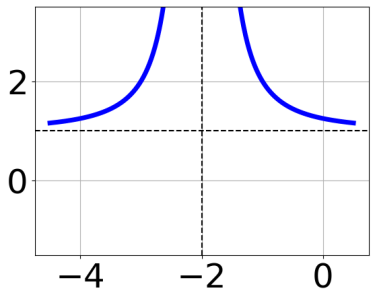
C.



B.



D.



E. None of the above.

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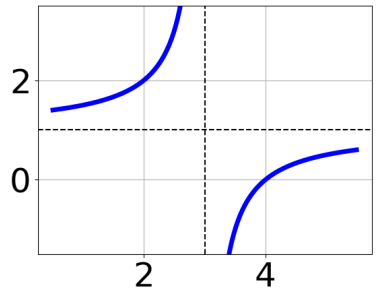
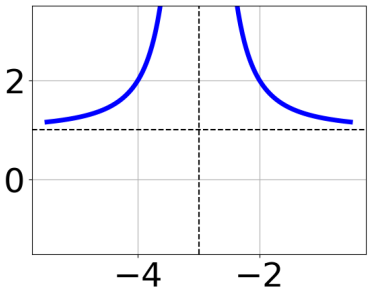
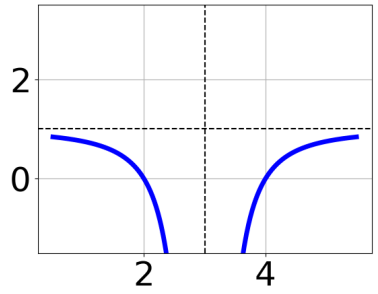
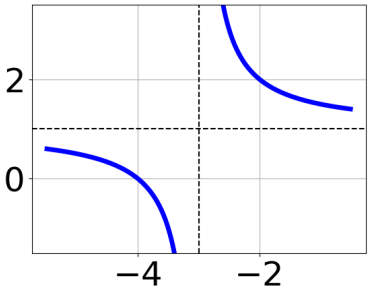
9. Choose the graph of the equation below.

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

A. 

C. 

B. 

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.

$$\frac{-4x}{2x-2} + \frac{-3x^2}{6x^2-6} = \frac{7}{3x+3}$$

A. $x \in [-1.17, -0.51]$

B. $x_1 \in [-0.98, 1.34]$ and $x_2 \in [-8.16, -1.17]$

C. $x_1 \in [-0.98, 1.34]$ and $x_2 \in [1, 6]$

D. $x \in [-3.3, -1.51]$

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