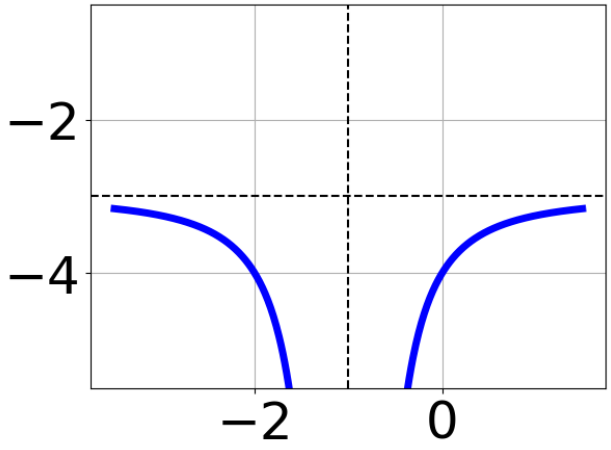
1. Choose the equation of the function graphed below.



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

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

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

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

E. None of the above

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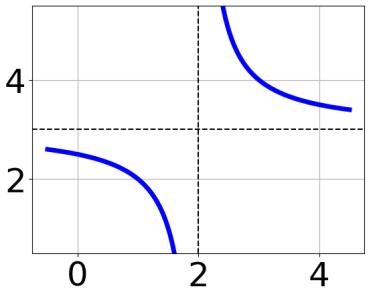
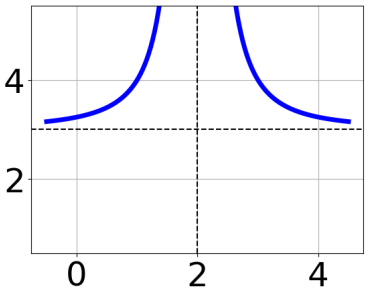
2. Choose the graph of the equation below.

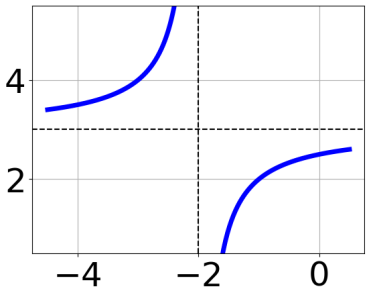
$$f(x) = \frac{-1}{x+2} + 3$$

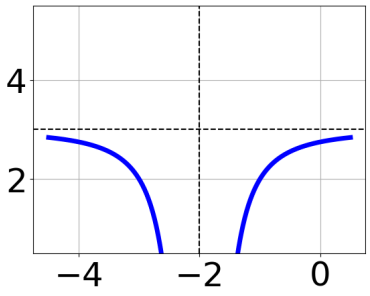
A.



B.



C. 

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.

$$\frac{-5x}{-3x-6}+\frac{-6x^2}{-12x^2-12x+24}=\frac{6}{4x-4}$$

A. $x_1 \in [1.13, 3]$ and $x_2 \in [-5, -1.3]$

B. $x \in [-1.44, -0.22]$

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

D. $x \in [-0.21, 1.52]$

E. $x_1 \in [1.13, 3]$ and $x_2 \in [-0.9, 2.2]$

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4. Determine the domain of the function below.

$$f(x)=\frac{4}{15x^2-42x+24}$$

A. All Real numbers except $x = a$ and $x = b$, where $a \in [0.3, 1.7]$ and $b \in [1.3, 3]$

B. All Real numbers except $x = a$ and $x = b$, where $a \in [16, 19.2]$ and $b \in [19.7, 20.7]$

C. All Real numbers except $x = a$, where $a \in [0.3, 1.7]$

D. All Real numbers except $x = a$, where $a \in [16, 19.2]$

E. All Real numbers.

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

$$\frac{-35}{28x-63}+1=\frac{-35}{28x-63}$$

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

B. $x \in [2.25, 3.25]$

C. $x_1 \in [-5, -1]$ and $x_2 \in [1, 5]$

D. $x_1 \in [0, 4]$ and $x_2 \in [1, 5]$

E. $x \in [-5, -1]$
