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

$$\frac{-40}{-30x+50}+1=\frac{-40}{-30x+50}$$

A. $x \in [-2,-1]$

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

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

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

E. $x \in [1.67, 3.67]$

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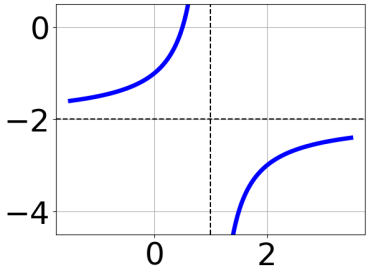
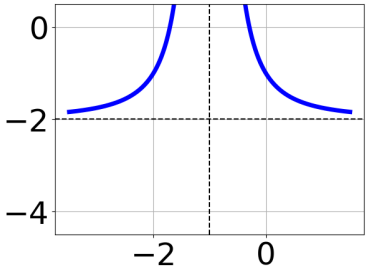
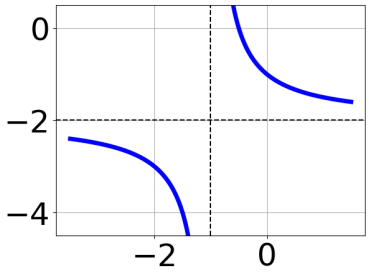
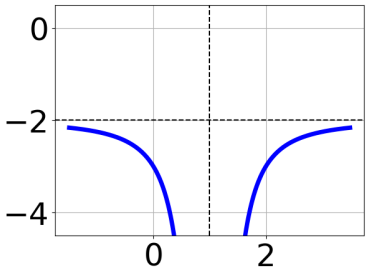
2. Choose the graph of the equation below.

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

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.

$$\frac{2x}{-2x+3} + \frac{-5x^2}{-6x^2+23x-21} = \frac{3}{3x-7}$$

A. $x_1 \in [-3, 2]$ and $x_2 \in [-1, 4]$

B. $x_1 \in [-3, 2]$ and $x_2 \in [7, 13]$

C. $x \in [6, 12]$

D. $x \in [0, 7]$

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

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4. Determine the domain of the function below.

$$f(x) = \frac{3}{24x^2 - 8x - 16}$$

A. All Real numbers.

B. All Real numbers except $x = a$ and $x = b$, where $a \in [-0.9, 0.3]$ and $b \in [0.1, 1.1]$

C. All Real numbers except $x = a$, where $a \in [-25.5, -22.5]$

D. All Real numbers except $x = a$, where $a \in [-0.9, 0.3]$

E. All Real numbers except $x = a$ and $x = b$, where $a \in [-25.5, -22.5]$ and $b \in [14.6, 16.4]$

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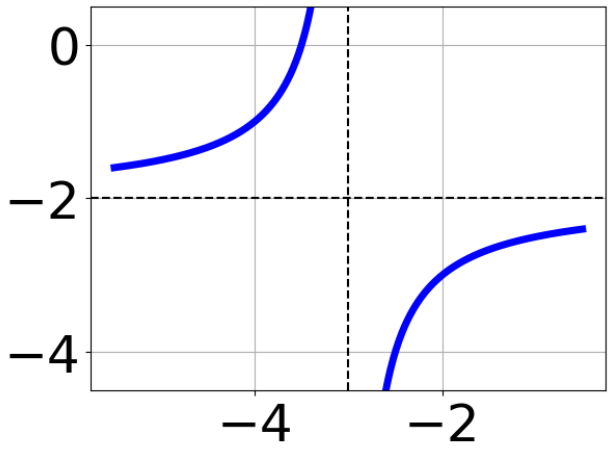
5. Choose the equation of the function graphed below.



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

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

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

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

E. None of the above
