1. Determine the domain of the function below.

$$f(x) = \frac{6}{16x^2 + 32x + 15}$$

A. All Real numbers except $x = a$ and $x = b$, where $a \in [-20.11, -19.61]$ and b $[-12.18, -11.99]$

B. All Real numbers.

C. All Real numbers except $x = a$ and $x = b$, where $a \in [-1.45, -0.86]$ and $b \in [-0.92, -0.03]$

D. All Real numbers except $x = a$, where $a \in [-20.11, -19.61]$

E. All Real numbers except $x = a$, where $a \in [-1.45, -0.86]$

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

$$\frac{6}{-2x + 5} + -8 = \frac{-8}{-10x + 25}$$

A. $x \in [2.02, 4.03]$

B. $x \in [-3.9, -2.5]$

C. $x_1 \in [0.6, 1.7]$ and $x_2 \in [2.02, 5.03]$

D. $x_1 \in [-3.9, -2.5]$ and $x_2 \in [2.02, 5.03]$

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

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

$$\frac{7}{-2x + 2} + 4 = \frac{6}{-12x + 12}$$

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

B. $x_1 \in [-0.3, 0.1]$ and $x_2 \in [0.75, 4.75]$

C. $x \in [-0.3, 0.1]$

D. $x_1 \in [0.6, 1.2]$ and $x_2 \in [0.75, 4.75]$

E. $x \in [0.75, 2.75]$

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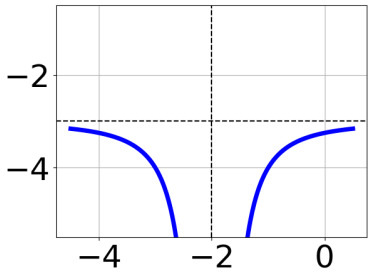
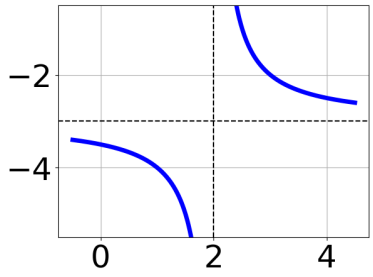
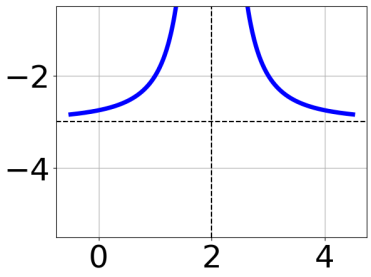
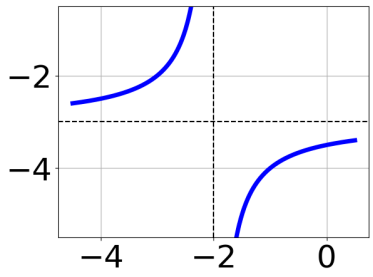
4. Choose the graph of the equation below.

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

A. 

C. 

B. 

D. 

E. None of the above.

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5. Determine the domain of the function below.

$$f(x) = \frac{3}{20x^2 - 27x + 9}$$

A. All Real numbers except $x = a$ and $x = b$, where $a \in [11.85, 12.02]$ and $b \in [14.48, 15.21]$

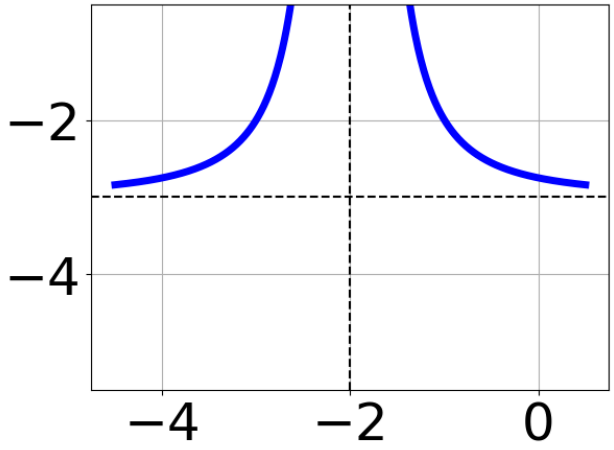
B. All Real numbers.

C. All Real numbers except $x = a$, where $a \in [11.85, 12.02]$

D. All Real numbers except $x = a$, where $a \in [0.32, 0.71]$

E. All Real numbers except $x = a$ and $x = b$, where $a \in [0.32, 0.71]$ and $b \in [0.64, 0.85]$

6. Choose the equation of the function graphed below.



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

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

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

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

E. None of the above

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

$$\frac{-6x}{6x-5} + \frac{-7x^2}{-42x^2+71x-30} = \frac{-2}{-7x+6}$$

A. $x_1 \in [-0.32, -0.23]$ and $x_2 \in [0.77, 0.91]$

B. $x \in [0.95, 1.01]$

C. $x_1 \in [-0.32, -0.23]$ and $x_2 \in [0.9, 1.05]$

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

E. $x \in [0.77, 0.96]$

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

$$\frac{2x}{5x+7} + \frac{-7x^2}{20x^2+38x+14} = \frac{-6}{4x+2}$$

A. $x_1 \in [-34.16, -32.61]$ and $x_2 \in [-1.33, -1.22]$

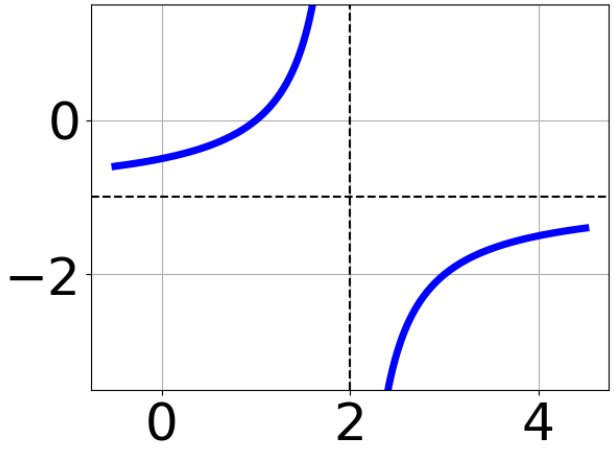
B. All solutions lead to invalid or complex values in the equation.

C. $x \in [-2.06, -0.99]$

D. $x \in [-0.66, 0.49]$

E. $x_1 \in [-34.16, -32.61]$ and $x_2 \in [-1.55, -1.32]$

9. Choose the equation of the function graphed below.



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

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

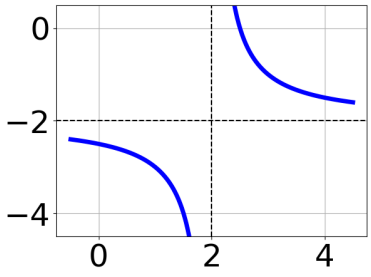
C. $f(x) = \dfrac{1}{x+2} - 1$

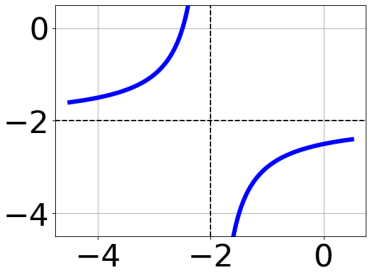
D. $f(x) = \dfrac{1}{(x+2)^2} - 1$

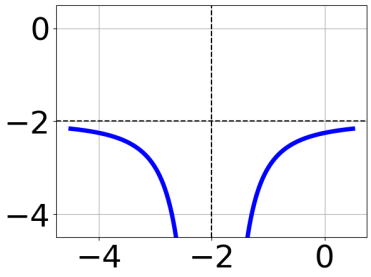
E. None of the above

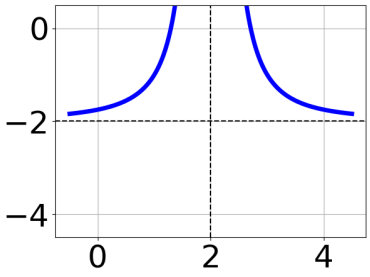
10. Choose the graph of the equation below.

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

A.


C.


B.


D.


E. None of the above.