1. Determine the domain of the function below.

$$f(x) = \frac{6}{12x^2 - 32x + 20}$$

A. All Real numbers.

B. All Real numbers except $x = a$ and $x = b$, where $a \in [14.14, 15.28]$ and $b \in [15.67, 16.82]$

C. All Real numbers except $x = a$, where $a \in [14.14, 15.28]$

D. All Real numbers except $x = a$ and $x = b$, where $a \in [0.63, 1.58]$ and $b \in [1.16, 2.36]$

E. All Real numbers except $x = a$, where $a \in [0.63, 1.58]$

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

$$\frac{48}{32x - 72} + 1 = \frac{48}{32x - 72}$$

A. $x_1 \in [0.25, 4.25]$ and $x_2 \in [0.25, 3.25]$

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

C. $x_1 \in [-2.25, -0.25]$ and $x_2 \in [0.25, 3.25]$

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

E. $x \in [-2.25, -0.25]$

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

$$\frac{7x + 0}{4x + 5} + \frac{-7x^2 + 0x + 0}{12x^2 - x - 20} = \frac{3}{3x - 4}$$

A. $x \in [2.97, 4.51]$

B. $x_1 \in [-0.36, -0.23]$ and $x_2 \in [-3.1, 2.8]$

C. $x_1 \in [-0.36, -0.23]$ and $x_2 \in [2.2, 4]$

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

E. $x \in [0.66, 2.27]$

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4. Determine the domain of the function below.

$$f(x) = \frac{3}{12x^2 - 6x - 18}$$

A. All Real numbers except $x = a$ and $x = b$, where $a \in [-2, 0]$ and $b \in [-0.5, 2.5]$

B. All Real numbers except $x = a$ and $x = b$, where $a \in [-11, -6]$ and $b \in [21, 27]$

C. All Real numbers except $x = a$, where $a \in [-11, -6]$

D. All Real numbers except $x = a$, where $a \in [-2, 0]$

E. All Real numbers.

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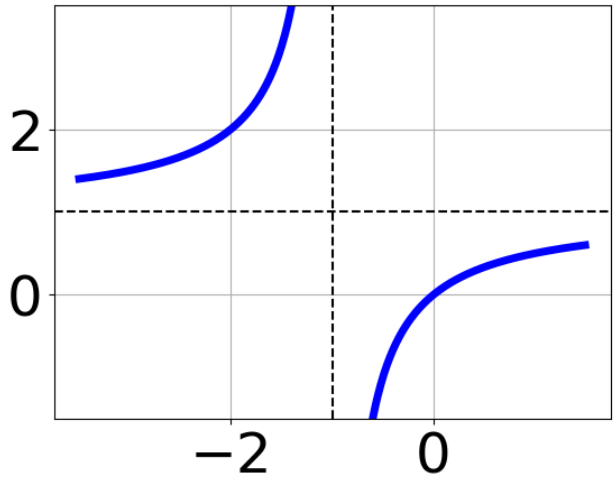
5. Choose the equation of the function graphed below.



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

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

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

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

E. None of the above

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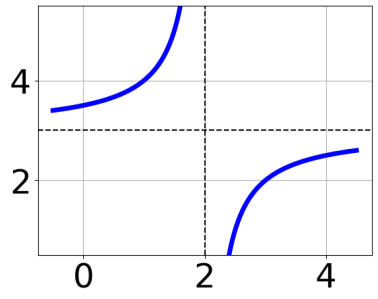
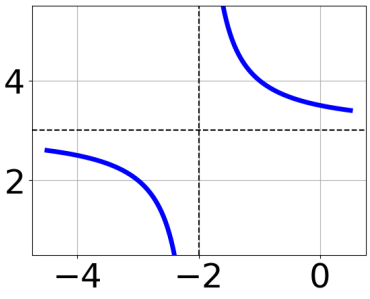
6. Choose the graph of the equation below.

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

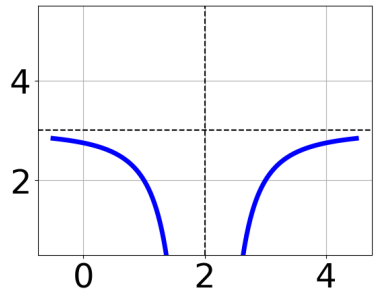
A.



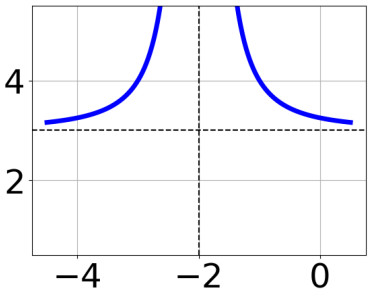
C.



B.



D.



E. None of the above.

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

$$\frac{65}{52x+39} + 1 = \frac{65}{52x+39}$$

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

B. $x \in [-0.75, 0.25]$

C. $x_1 \in [-0.75, 0.25]$ and $x_2 \in [-1.2, -0.1]$

D. $x \in [-0.25, 1.75]$

E. $x_1 \in [-0.75, 0.25]$ and $x_2 \in [0.2, 1.7]$

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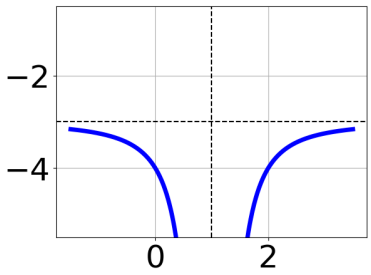
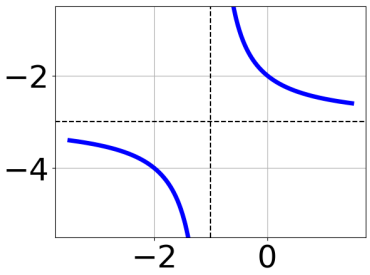
8. Choose the graph of the equation below.

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

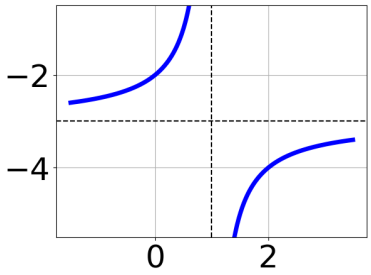
A.



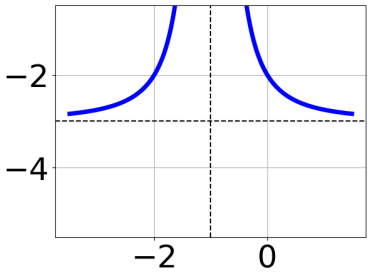
C.



B.



D.



E. None of the above.

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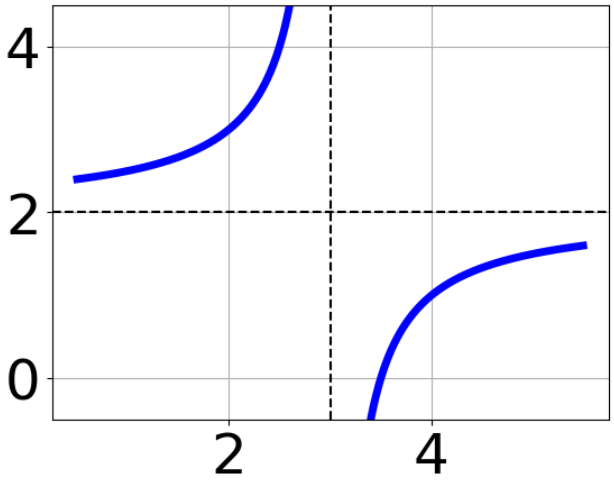
9. Choose the equation of the function graphed below.



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

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

$$\frac{7x+0}{-7x-5} + \frac{-7x^2+0x+0}{-14x^2-45x-25} = \frac{6}{2x+5}$$

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

B. $x_1 \in [-11.4, -10]$ and $x_2 \in [-0.58, -0.22]$

C. $x_1 \in [-11.4, -10]$ and $x_2 \in [-0.98, -0.71]$

D. $x \in [-5.5, -1.1]$

E. $x \in [-0.9, 0.2]$
