1. Determine the domain of the function below.

$$f(x) = \frac{4}{15x^2 - 8x - 16}$$

   A. All Real numbers except $x = a$, where $a \in [-2, 1]$

   B. All Real numbers.

   C. All Real numbers except $x = a$ and $x = b$, where $a \in [-2, 1]$ and $b \in [0, 4]$

   D. All Real numbers except $x = a$ and $x = b$, where $a \in [-21, -14]$ and $b \in [8, 16]$

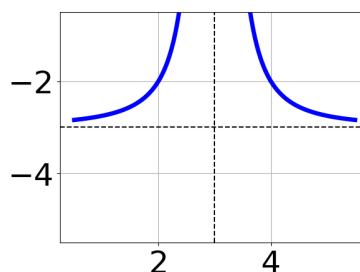   E. All Real numbers except $x = a$, where $a \in [-21, -14]$

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

$$\frac{2x}{5x + 4} + \frac{-6x^2}{-25x^2 - 30x - 8} = \frac{-4}{-5x - 2}$$
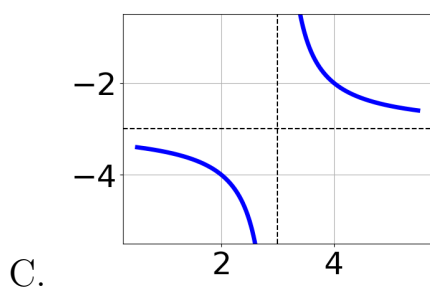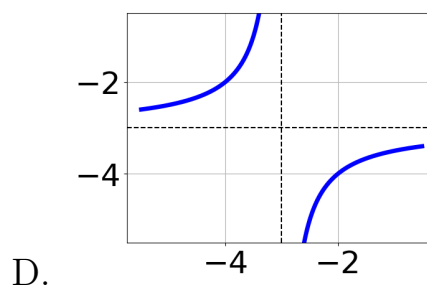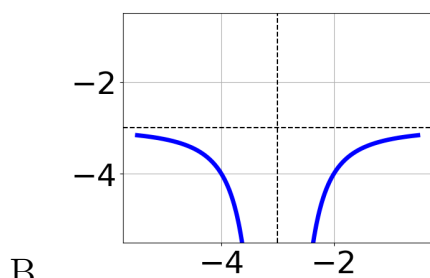
   A. $x_1 \in [1.42, 2.07]$ and $x_2 \in [-0.76, -0.53]$

   B. $x \in [-0.58, -0.38]$

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

   D. $x \in [-0.97, -0.57]$

   E. $x_1 \in [1.42, 2.07]$ and $x_2 \in [-1.22, -0.7]$

3. Choose the graph of the equation below.

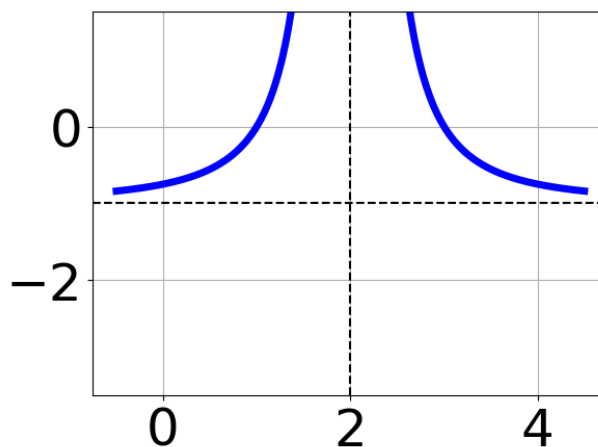$$f(x) = \frac{-1}{x + 3} - 3$$

A.

B.

D.

C.

E. None of the above.

---

4. Choose the equation of the function graphed below.

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

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

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

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

   E. None of the above

---

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

$$\frac{-9}{-9x+4} + -4 = \frac{5}{81x-36}$$

   A. $x \in [-1.4, 0]$

   B. $x_1 \in [-1.4, 0]$ and $x_2 \in [0.6, 0.8]$

   C. $x_1 \in [0.4, 1.1]$ and $x_2 \in [0.72, 1.95]$

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

   E. $x \in [-0.32, 2.68]$