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36. Which of the following intervals describes the Domain of the function below?

$$f(x) = -\log_2(x + 3) + 5$$

- A.  $(-\infty, a], a \in [3.85, 5.26]$
- B.  $[a, \infty), a \in [-6.15, -3.84]$
- C.  $(-\infty, a), a \in [2.96, 3.87]$
- D.  $(a, \infty), a \in [-3.7, -2.71]$
- E.  $(-\infty, \infty)$

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37. Which of the following intervals describes the Range of the function below?

$$f(x) = e^{x+3} + 6$$

- A.  $(-\infty, a), a \in [-8, -5]$
- B.  $(-\infty, a], a \in [-8, -5]$
- C.  $[a, \infty), a \in [-1, 13]$
- D.  $(a, \infty), a \in [-1, 13]$
- E.  $(-\infty, \infty)$

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38. Solve the equation for  $x$  and choose the interval that contains the solution (if it exists).

$$\log_3(-2x + 7) + 5 = 3$$

- A.  $x \in [-10.5, -7.8]$
  - B.  $x \in [0.2, 2.2]$
  - C.  $x \in [0.8, 4.2]$
  - D.  $x \in [6.4, 8]$
  - E. There is no Real solution to the equation.
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39. Solve the equation for  $x$  and choose the interval that contains  $x$  (if it exists).

$$13 = \ln \sqrt{\frac{25}{e^x}}$$

- A.  $x \in [5, 13]$
- B.  $x \in [22, 25]$
- C.  $x \in [-24, -19]$
- D.  $x \in [-14, -6]$
- E. There is no solution to the equation.

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40. Solve the equation for  $x$  and choose the interval that contains the solution (if it exists).

$$5^{3x+5} = \left(\frac{1}{16}\right)^{2x-5}$$

- A.  $x \in [6, 9.3]$
  - B.  $x \in [-9.3, -6.9]$
  - C.  $x \in [0.2, 0.9]$
  - D.  $x \in [-1.8, 0.3]$
  - E. There is no Real solution to the equation.
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