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

$$5^{-5x+3} = 343^{-3x-4}$$

A. $x \in [11, 16]$

B. $x \in [-5, -1]$

C. $x \in [3, 7]$

D. $x \in [-2, 0]$

E. There is no Real solution to the equation.

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

$$f(x) = e^{x-7} - 2$$

A. $(a, \infty), a \in [0, 6]$

B. $(-\infty, a), a \in [-4, -1]$

C. $[a, \infty), a \in [0, 6]$

D. $(-\infty, a], a \in [-4, -1]$

E. $(-\infty, \infty)$

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

$$8 = \ln \sqrt[5]{\frac{8}{e^{7x}}}$$

A. $x \in [-2.07, -1.8]$

B. $x \in [-1.81, -1.58]$

C. $x \in [5.4, 5.45]$

D. There is no Real solution to the equation.

E. None of the above.

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

$$\log_5(3x+8)+6=2$$

A. $x \in [-340, -335]$

B. $x \in [-7, 1]$

C. $x \in [-2, 9]$

D. $x \in [-348, -343]$

E. There is no Real solution to the equation.

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

$$f(x) = -\log_2(x+9)+5$$

A. $(-\infty, a], a \in [-8, -3]$

B. $(a, \infty), a \in [-10, -6]$

C. $[a, \infty), a \in [0, 8]$

D. $(-\infty, a), a \in [8, 13]$

E. $(-\infty, \infty)$
