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

$$f(x) = -e^{x+6} - 5$$

A. $(-\infty, a), a \in [-11, -3]$

B. $(a, \infty), a \in [3, 6]$

C. $[a, \infty), a \in [3, 6]$

D. $(-\infty, a], a \in [-11, -3]$

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

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

$$\log_2 (-3x + 6) + 4 = 2$$

A. $x \in [1.82, 2.19]$

B. $x \in [0.41, 1.04]$

C. $x \in [-3.38, -3.08]$

D. $x \in [0.41, 1.04]$

E. There is no Real solution to the equation.

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

$$12 = \sqrt[5]{\frac{28}{e^{7x}}}$$

A. $x \in [-0.79, 0.28]$

B. $x \in [-1.47, -1.12]$

C. $x \in [-9.25, -9]$

   D. There is no Real solution to the equation.

   E. None of the above.

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

$$f(x) = \log_2 (x + 3) + 6$$

  A. $(-\infty, a), a \in [2.3, 3.6]$

  B. $(a, \infty), a \in [-3.9, -2.8]$

  C. $(-\infty, a], a \in [-6.1, -5.8]$

  D. $[a, \infty), a \in [5.8, 8.1]$

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

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

$$5^{4x-2} = 49^{3x-4}$$

  A. $x \in [-1.4, 1.7]$

  B. $x \in [-12.7, -11.2]$

  C. $x \in [2, 3.2]$

  D. $x \in [-2.8, -1.2]$

  E. There is no Real solution to the equation.