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

$$f(x) = -\log_2 (x - 2) - 6$$

A. $[a, \infty), a \in [5.7, 6.8]$

B. $(-\infty, a), a \in [-4.2, -1]$

C. $(a, \infty), a \in [1, 3.3]$

D. $(-\infty, a], a \in [-8.6, -4]$

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

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

$$f(x) = e^{x+1} - 6$$

A. $(a, \infty), a \in [-12, -3]$

B. $(-\infty, a), a \in [2, 7]$

C. $(-\infty, a], a \in [2, 7]$

D. $[a, \infty), a \in [-12, -3]$

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

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

$$\log_4 (-4x + 8) + 5 = 2$$

A. $x \in [-0.2, 4.2]$

B. $x \in [-20.7, -18.2]$

C. $x \in [-23.4, -21.1]$

D. $x \in [-3.9, -0.9]$

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).

$$6 = \ln \sqrt{\frac{26}{e^x}}$$

A. $x \in [-8, -2]$

B. $x \in [1, 6]$

C. $x \in [-10, -7]$

D. $x \in [7, 15]$

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).

$$5^{5x-2} = \left(\frac{1}{49}\right)^{-2x+4}$$

A. $x \in [0.3, 1.6]$

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

C. $x \in [4.4, 6.2]$

D. $x \in [-48.2, -44.9]$

E. There is no Real solution to the equation.