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

$$f(x) = \log_2 (x + 3) + 9$$

A. $(-\infty, a), a \in [-13, -7]$

B. $[a, \infty), a \in [-4, 0]$

C. $(-\infty, a], a \in [2, 8]$

D. $(-\infty, a), a \in [5, 10]$

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

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

$$f(x) = e^{x+7} + 3$$

A. $(-\infty, a], a \in [-3.2, 0.2]$

B. $(-\infty, a), a \in [-3.2, 0.2]$

C. $(a, \infty), a \in [2.9, 5.4]$

D. $[a, \infty), a \in [2.9, 5.4]$

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

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

$$\log_3 (4x + 7) + 6 = 3$$

A. $x \in [-4.7, 0.4]$

B. $x \in [-6.3, -3.4]$

C. $x \in [-8.7, -6.1]$

D. $x \in [3.7, 8.3]$

E. There is no Real solution to the equation.

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

$$5 = \ln \sqrt{\frac{20}{e^x}}$$

A. $x \in [5, 7.8]$

B. $x \in [-5.7, -2.7]$

C. $x \in [3.4, 6.7]$

D. $x \in [-7.4, -4.6]$

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).

$$4^{-3x-3} = \left(\frac{1}{27}\right)^{-2x+4}$$

A. $x \in [0.2, 2.4]$

B. $x \in [-5, -2.3]$

C. $x \in [-1.5, -0.4]$

D. $x \in [4.1, 4.8]$

E. There is no Real solution to the equation.