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

$$\log_5(2x+5)+4=2$$

A. $x \in [-5,-2]$

B. $x \in [-20,-14]$

C. $x \in [7,14]$

D. $x \in [-14,-10]$

E. There is no Real solution to the equation.

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

$$f(x) = -\log_2(x-3)+1$$

A. $[a,\infty), a \in [-4.27,-2.69]$

B. $(-\infty,a), a \in [-0.5,2.81]$

C. $(-\infty,a), a \in [-1.77,0.12]$

D. $[a,\infty), a \in [2.95,3.66]$

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

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

$$15 = \ln\sqrt[4]{\frac{16}{e^{3x}}}$$

A. $x \in [-8,-1]$

B. $x \in [18,22]$

C. $x \in [-11,-8]$

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 Range of the function below?

$$f(x) = e^{x-5} - 8$$

A. $(a, \infty), a \in [-10, -1]$

B. $[a, \infty), a \in [-10, -1]$

C. $(-\infty, a), a \in [-1, 13]$

D. $(-\infty, a], a \in [-1, 13]$

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

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

$$5^{-3x-2} = 27^{-2x+5}$$

A. $x \in [9, 13]$

B. $x \in [-10, -2]$

C. $x \in [-22, -19]$

D. $x \in [3, 6]$

E. There is no Real solution to the equation.
