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

$$4^{5x-5} = 9^{4x+4}$$

A. $x \in [14.72, 16.72]$

B. $x \in [-5.85, -1.85]$

C. $x \in [9, 12]$

D. $x \in [-11.46, -6.46]$

E. There is no Real solution to the equation.

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

$$2^{2x-4} = \left(\frac{1}{25}\right)^{5x+5}$$

A. $x \in [-0.2, 1.3]$

B. $x \in [4.2, 4.5]$

C. $x \in [-0.8, -0.7]$

D. $x \in [-3.8, -2.6]$

E. There is no Real solution to the equation.

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

$$f(x) = e^{x+7} + 8$$

A. $[a, \infty), a \in [-10, -3]$

B. $(-\infty, a), a \in [7, 11]$

C. $(a, \infty), a \in [-10, -3]$

D. $(-\infty, a], a \in [7, 11]$

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

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

$$f(x) = -e^{x-6} + 8$$

A. $(-\infty, a], a \in [2, 14]$

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

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

D. $(-\infty, a), a \in [2, 14]$

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

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

$$f(x) = \log_2(x + 8) - 1$$

A. $[a, \infty), a \in [-1.6, -0.88]$

B. $(-\infty, a), a \in [6.97, 8.07]$

C. $(a, \infty), a \in [-8.55, -7.8]$

D. $(-\infty, a], a \in [-0.11, 2.96]$

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

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

$$15 = \sqrt[4]{\frac{20}{e^{7x}}}$$

A. $x \in [-1.36, -1.09]$

B. $x \in [-0.74, 0.13]$

C. $x \in [-9.79, -8.72]$

D. There is no Real solution to the equation.

E. None of the above.

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

$$f(x) = \log_2(x-1) + 6$$

A. $(a, \infty), a \in [0.7, 2.2]$

B. $[a, \infty), a \in [4.2, 6.8]$

C. $(-\infty, a], a \in [-6.6, -3.2]$

D. $(-\infty, a), a \in [-1.7, 0.8]$

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

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

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

A. $x \in [-7.81, -7.27]$

B. $x \in [-5.08, -2.43]$

C. $x \in [1.67, 4.29]$

D. $x \in [-0.45, 1.08]$

E. There is no Real solution to the equation.

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

$$\log_3(-2x+5) + 5 = 3$$

A. $x \in [0.68, 1.87]$

B. $x \in [1.66, 2.67]$

C. $x \in [6.26, 7.44]$

D. $x \in [-12.48, -10.73]$

E. There is no Real solution to the equation.

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

$$6 = \sqrt[6]{\frac{8}{e^{8x}}}$$

A. $x \in [-0.63, -0.06]$

B. $x \in [-4.9, -4.63]$

C. $x \in [-1.38, -0.72]$

D. There is no Real solution to the equation.

E. None of the above.