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

$$24 = \sqrt[6]{\frac{22}{e^{7x}}}$$

A. $x \in [-21.32, -20.97]$

B. $x \in [-0.81, -0.44]$

C. $x \in [2.07, 2.75]$

D. There is no Real solution to the equation.

E. None of the above.

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

$$4^{5x-4} = \left(\frac{1}{25}\right)^{-3x+5}$$

A. $x \in [2.7, 6.2]$

B. $x \in [-3, -1]$

C. $x \in [-0.6, 1.9]$

D. $x \in [-4.5, -1.6]$

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 the solution (if it exists).

$$2^{-5x-4} = 25^{-4x+5}$$

A. $x \in [1.8, 3]$

B. $x \in [-21.1, -17.6]$

C. $x \in [-9.8, -7.2]$

D. $x \in [0, 1.2]$

E. There is no Real solution to the equation.

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

$$\log_4(2x+8)+6=3$$

A. $x \in [-8.99, -0.99]$

B. $x \in [35.5, 38.5]$

C. $x \in [23, 30]$

D. $x \in [39.5, 50.5]$

E. There is no Real solution to the equation.

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

$$f(x)=e^{x+2}+1$$

A. $(-\infty, a], a \in [-1.1, -0.6]$

B. $(a, \infty), a \in [0.3, 2.4]$

C. $(-\infty, a), a \in [-1.1, -0.6]$

D. $[a, \infty), a \in [0.3, 2.4]$

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

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

$$14=\sqrt[4]{\frac{10}{e^{5x}}}$$

A. $x \in [-12.9, -11.3]$

B. $x \in [-1.9, -1.5]$

C. $x \in [-1.2, -0.2]$

D. There is no Real solution to the equation.

E. None of the above.

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

$$\log_4(-3x+8)+5=2$$

A. $x \in [-3.67, -0.67]$

B. $x \in [1.66, 5.66]$

C. $x \in [-25.33, -21.33]$

D. $x \in [-32.67, -24.67]$

E. There is no Real solution to the equation.

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

$$f(x) = -\log_2(x+5) - 4$$

A. $(-\infty, a), a \in [4.53, 5.56]$

B. $(-\infty, a], a \in [3.58, 4.89]$

C. $(a, \infty), a \in [-5.04, -4.64]$

D. $[a, \infty), a \in [-4.5, -3.84]$

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

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

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

A. $(-\infty, a], a \in [-9, -5]$

B. $(a, \infty), a \in [0, 13]$

C. $[a, \infty), a \in [0, 13]$

D. $(-\infty, a), a \in [-9, -5]$

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

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

$$f(x) = -\log_2(x+5) - 3$$

A. $[a, \infty), a \in [-7.6, -4.4]$

B. $(-\infty, a), a \in [2.7, 3.3]$

C. $[a, \infty), a \in [4.7, 7.4]$

D. $(-\infty, a), a \in [-4.9, -0.8]$

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