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

$$\log_5(-3x+8)+6=2$$

A. $x \in [334.67, 341.67]$

B. $x \in [-7.67, -2.67]$

C. $x \in [-2.33, 7.67]$

D. $x \in [341, 349]$

E. There is no Real solution to the equation.

---

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

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

A. $(a, \infty), a \in [-10, -2]$

B. $(-\infty, a), a \in [3, 13]$

C. $[a, \infty), a \in [-10, -2]$

D. $(-\infty, a], a \in [3, 13]$

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

---

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

$$14 = \sqrt[5]{\frac{26}{e^{5x}}}$$

A. $x \in [-1.4, 0.6]$

B. $x \in [-17.65, -11.65]$

C. $x \in [-5.99, -0.99]$

D. There is no Real solution to the equation.

E. None of the above.

---

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

$$3^{-2x+5} = \left(\frac{1}{49}\right)^{-3x-4}$$

A. $x \in [-0.73, 0.27]$

B. $x \in [-0.35, 5.65]$

C. $x \in [-12, -4]$

D. $x \in [8.07, 11.07]$

E. There is no Real solution to the equation.

---

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

$$f(x) = \log_2(x - 6) + 9$$

A. $(-\infty, a], a \in [-9.73, -8.65]$

B. $(a, \infty), a \in [5.28, 6.86]$

C. $(-\infty, a), a \in [-7.07, -4.61]$

D. $[a, \infty), a \in [7.74, 10.5]$

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

---

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

$$17 = \sqrt[7]{\frac{22}{e^{5x}}}$$

A. $x \in [-3.35, -2.35]$

B. $x \in [-28.42, -22.42]$

C. $x \in [-1.52, 3.48]$

D. There is no Real solution to the equation.

E. None of the above.

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

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

A. $[a, \infty), a \in [4, 12]$

B. $(-\infty, a), a \in [-5, -1]$

C. $(-\infty, a), a \in [-1, 7]$

D. $[a, \infty), a \in [-15, -8]$

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

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

$$2^{-5x+3} = 49^{-3x-5}$$

A. $x \in [7.6, 11.3]$

B. $x \in [3.1, 4.2]$

C. $x \in [-3.2, -1.6]$

D. $x \in [-2.1, -0.3]$

E. There is no Real solution to the equation.

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

$$f(x) = -e^{x+6} + 2$$

A. $(-\infty, a), a \in [0, 7]$

B. $(-\infty, a], a \in [0, 7]$

C. $(a, \infty), a \in [-3, -1]$

D. $[a, \infty), a \in [-3, -1]$

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

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

$$\log_5(4x+6)+5=2$$

A. $x \in [-7, 1.1]$

B. $x \in [2.1, 5.9]$

C. $x \in [-60.4, -58.6]$

D. $x \in [-62.4, -61]$

E. There is no Real solution to the equation.