61. Subtract the following functions, then choose the domain of the resulting function from the list below.

$$f(x) = 4x + 9 \text{ and } g(x) = \frac{3}{5x + 29}$$

A. The domain is all Real numbers greater than or equal to $x = a,$ where $a \in [2, 7]$

B. The domain is all Real numbers except $x = a,$ where $a \in [-8, -2]$

C. The domain is all Real numbers less than or equal to $x = a,$ where $a \in [4, 12]$

D. The domain is all Real numbers except $x = a$ and $x = b,$ where $a \in [-9, 0]$ and $b \in [-8, -5]$

E. The domain is all Real numbers.

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62. Determine whether the function below is 1-1.

$$f(x) = \sqrt{6x + 39}$$

A. No, because the range of the function is not $(-\infty, \infty)$.

B. No, because there is a y-value that goes to 2 different x-values.

C. No, because the domain of the function is not $(-\infty, \infty)$.

D. No, because there is an x-value that goes to 2 different y-values.

E. Yes, the function is 1-1.

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63. Find the inverse of the function below (if it exists). Then, evaluate the inverse at $x = -13$ and choose the interval the $f^{-1}(-13)$ belongs to.

$$f(x) = \sqrt[3]{5x + 3}$$

A. $f^{-1}(-13) \in [-439.27, -438.56]$

B. $f^{-1}(-13) \in [439.91, 440.19]$

C. $f^{-1}(-13) \in [-440.91, -439.09]$

D. $f^{-1}(-13) \in [438.17, 439.04]$

E. The function is not invertible for all Real numbers.

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64. Choose the interval below that f composed with g at $x = -1$ is in.

$$f(x) = x^3 - 4x^2 - x \text{ and } g(x) = -2x^3 - 1x^2 + 3x$$

A. $(f \circ g)(-1) \in [96, 104]$

B. $(f \circ g)(-1) \in [-18, -5]$

C. $(f \circ g)(-1) \in [89, 95]$

D. $(f \circ g)(-1) \in [-31, -17]$

E. It is not possible to compose the two functions.

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65. Find the inverse of the function below. Then, evaluate the inverse at $x = 7$ and choose the interval that $f^{-1}(7)$ belongs to.

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

A. $f^{-1}(7) \in [4.9, 6]$

B. $f^{-1}(7) \in [4.9, 6]$

C. $f^{-1}(7) \in [-2.2, -1.4]$

D. $f^{-1}(7) \in [3.1, 5.2]$

E. $f^{-1}(7) \in [3.1, 5.2]$