

NAME: _____

A2.A.39: Determine the domain and range of a function from its equation

1. 010218b, P.I. A2.A.39

What is the domain of $h(x) = \sqrt{x^2 - 4x - 5}$?

- [A] $\{x \mid -1 \leq x \leq 5\}$
[B] $\{x \mid x \geq 5 \text{ or } x \leq -1\}$
[C] $\{x \mid -5 \leq x \leq 1\}$
[D] $\{x \mid x \geq 1 \text{ or } x \leq -5\}$

2. 060407b, P.I. A2.A.39

What is the domain of the function

$$f(x) = \frac{2x^2}{x^2 - 9}?$$

- [A] all real numbers
[B] all real numbers except 3
[C] all real numbers except 3 and -3
[D] all real numbers except 0

3. 010504b, P.I. A2.A.39

What is the domain of the function

$$f(x) = \frac{3x^2}{x^2 - 49}?$$

- [A] $\{x \mid x \in \text{real numbers}, x \neq 0\}$
[B] $\{x \mid x \in \text{real numbers}, x \neq \pm 7\}$
[C] $\{x \mid x \in \text{real numbers}\}$
[D] $\{x \mid x \in \text{real numbers}, x \neq 7\}$

4. 010314b, P.I. A2.A.39

If $f(x) = \frac{1}{\sqrt{2x-4}}$, the domain of $f(x)$ is

- [A] $x < 2$ [B] $x = 2$
[C] $x > 2$ [D] $x \geq 2$

5. 080204b, P.I. A2.A.39

What is the domain of $f(x) = 2^x$?

- [A] all integers [B] $x \geq 0$
[C] all real numbers [D] $x \leq 0$

6. 060301b, P.I. A2.A.39

For which value of x is $y = \log x$ undefined?

- [A] 0 [B] $\frac{1}{10}$ [C] 1.483 [D] π

7. fall9904b, P.I. A2.A.39

The expression $\log_2(x-4)$ is undefined for all values of x such that

- [A] $x \leq 0$ [B] $x > 0$
[C] $x \leq 4$ [D] $x > 1$

8. 010412b, P.I. A2.A.39

The expression $\log_3(8-x)$ is defined for all values of x such that

- [A] $x \geq 8$ [B] $x < 8$
[C] $x > 8$ [D] $x \leq 8$

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[1] B _____

[2] C _____

[3] B _____

[4] C _____

[5] C _____

[6] A _____

[7] C _____

[8] B _____