

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]  $\pi$

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]  $x \leq 8$

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

[1] B

[2] C

[3] B

[4] C

[5] C

[6] A

[7] C

[8] B