

## 2.11 Logarithmic Functions

AP Precalculus

Name: \_\_\_\_\_

**CA #1**

**Instructions: Find all relevant information from the given function. Sketch a graph. No calculator.**

1)  $f(x) = \ln(x - 5) - 2$

Asymptote:

Domain:

Range:

End Behavior:

Graph:

2)  $f(x) = -5 \log_6(x + 2) - 9$

Asymptote:

Domain:

Range:

End Behavior:

Graph:

3)  $f(x) = \log(7 - x) + 4$

Asymptote:

Domain:

Range:

End Behavior:

Graph:

4)  $f(x) = -2 \log_2(2 - x) + 4$

Asymptote:

Domain:

Range:

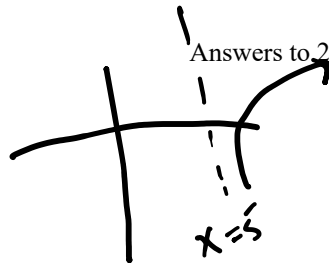
End Behavior:

Graph:

Answers to 2.11 CA #1

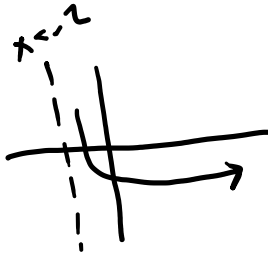
- 1) A:  $x = 5$   
 D:  $(5, \infty)$   
 R:  $(-\infty, \infty)$   
 EB:

$x \rightarrow \infty, f(x) \rightarrow \infty$   
 $x \rightarrow 5^+, f(x) \rightarrow -\infty$



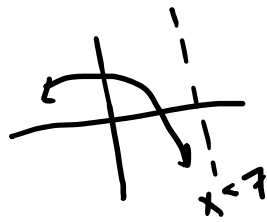
- 2) A:  $x = -2$   
 D:  $(-2, \infty)$   
 R:  $(-\infty, \infty)$   
 EB:

$x \rightarrow \infty, f(x) \rightarrow -\infty$   
 $x \rightarrow -2^+, f(x) \rightarrow \infty$



- 3) A:  $x = 7$   
 D:  $(-\infty, 7)$   
 R:  $(-\infty, \infty)$   
 EB:

$x \rightarrow 7^-, f(x) \rightarrow -\infty$   
 $x \rightarrow -\infty, f(x) \rightarrow \infty$



- 4) A:  $x = 2$   
 D:  $(-\infty, 2)$   
 R:  $(-\infty, \infty)$   
 EB:

$x \rightarrow 2^-, f(x) \rightarrow \infty$   
 $x \rightarrow -\infty, f(x) \rightarrow -\infty$

