

Present neatly on separate paper. Justify for full credit. No Calculators.

Name _____ Score _____ ~20 minutes

1. Find the domain of $f(x) = \sqrt{5-x} + \frac{1}{\sqrt{x-3}}$.

2. Complete the following table:

x	-4	-3	-2	-1	0	1	2	3	4
$f(x)$	0	-1	2	1	3	-2	-3	4	-4
$g(x)$	3	2	1	-3	-1	-4	4	-2	0
$(f \circ g)(x)$									
$(g \circ f)(x)$									

3. Find the inverse $f^{-1}(x)$ or explain why it does not exist.

$$f(x) = 8x^3 - 1.$$

4. State, in plain English, the Horizontal and Vertical Line Tests. Illustrate their use with two brief examples.