**GSE Algebra 2 Unit 4: Rational and Radical Relationships**

**Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| **Unit: 4B**  | **Test Review** |
| 1. Show that the given function is a rational function. Verify that the rewritten function is a rational function.
 | 1. Write a rational function h(x) using the given functions f(x) and g(x). Verify that both possible functions are rational functions.  and
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| 1. Write a rational function of the form  that has the given vertical asymptote(s) and zero(s): zero of x = 1; undefined at x = 3
 | 1. Write a rational function of the form  that has the given vertical asymptote(s) and zero(s): vertical asymptotes at x = 1 and x = -2; zero at x = 3
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| 1. Sketch the graph of the given rational function on a coordinate plane. Include asymptotes and zeros, if any. State the end behavior.
 | Sketch the graph of the given rational function on a coordinate plane. Include asymptotes and zeros, if any. State the end behavior. $ f\left(x\right)= \frac{4x-1}{2x+1}$ |
| 1. Find the zero(s) of each rational function

$$f\left(x\right)= \frac{x^{2}-2x-3}{x+1}$$ | 1. Find the zero(s) of each rational function

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| 1. Find the solution(s) to the rational functions.

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| 1. For each of the following functions, find the properties of the function: x-intercept or zero, y-intercept, domain, range, asymptote.

 | 1. For each of the following pairs of functions, find and compare the properties of the functions:
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