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

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

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| **Unit: 4B** | **Test Review** |
| 1. Solve the rational equation

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| 1. Kent can paint a certain room in 6 hours, but Kendra needs 4 hours to paint same room. How long does it take then to paint the room if they work together.?
 | 1. Marco can build a lap top twice as fast as Cliff. Working together, it takes them 5 hours How long would it have taken Marco working alone?
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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.

 | 1. Sketch the graph of the given rational function on a coordinate plane. Include asymptotes and zeros, if any. $ 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

$$f\left(x\right)=\frac{x^{3}-4x}{x-2}$$ |
| 1. For the following functions find the properties of the function: x-intercept or zero, y-intercept, vertical asymptote and the horizontal asymptote.

x-int:\_\_\_\_\_\_\_\_\_\_\_\_(write as an ordered pair)y-int: :\_\_\_\_\_\_\_\_\_\_\_\_(write as an ordered pair)Vert asy:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Horz asy:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 1. For the function below find the x-intercept, the y intercept, the vertical asymptote and the horizontal asymptote.

x-int:\_\_\_\_\_\_\_\_\_\_\_\_(write as an ordered pair)y-int: :\_\_\_\_\_\_\_\_\_\_\_\_(write as an ordered pair)Vert asy:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Horz asy:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Write the equation for the graph:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |