Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
Rational Functions Study Guide (Algebra Boot Camp) Honors Calculus Perry

**Part I: For each rational function, find all the holes, intercepts, and asymptotes.   
Find also the domain, and do a sign analysis. Use each to sketch the graph of the function.**

**SHOW YOUR WORK ON A SEPARATE SHEET OF PAPER.**

|  |  |
| --- | --- |
| **1.** |  |
| **Holes:** |
| **Intercepts:** |
| **Asymptotes:** |
| **Domain:** |
| **Sign Analysis:** |

|  |  |
| --- | --- |
| **2.** |  |
| **Holes:** |
| **Intercepts:** |
| **Asymptotes:** |
| **Domain:** |
| **Sign Analysis:** |

|  |  |
| --- | --- |
| **3.** |  |
| **Holes:** |
| **Intercepts:** |
| **Asymptotes:** |
| **Domain:** |
| **Sign Analysis:** |

|  |  |
| --- | --- |
| **4.** |  |
| **Holes:** |
| **Intercepts:** |
| **Asymptotes:** |
| **Domain:** |
| **Sign Analysis:** |

|  |  |
| --- | --- |
| **5.** |  |
| **Holes:** |
| **Intercepts:** |
| **Asymptotes:** |
| **Domain:** |
| **Sign Analysis:** |

|  |  |
| --- | --- |
| **6.** |  |
| **Holes:** |
| **Intercepts:** |
| **Asymptotes:** |
| **Domain:** |
| **Sign Analysis:** |

**Part II: For the graph of each rational function, use what you know about holes, intercepts,   
asymptotes, and multiplicity to write a possible equation for the graph. Without using a graphing   
calculator, explain how you know that the equation is accurate.**

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| --- | --- | --- |
| **1.** | **F(x) =**  **Explain:** |  |

|  |  |
| --- | --- |
| **2.** | **F(x) =**  **Explain:** |