Math 2312 – Pre-Calculus ***Final Exam*** **(*list to know*)**

1. For the function *f* given by , find the difference quotient 
2. Find the domain of: 
3. Let  and . Find  and the ***domain***.
4. Find the following of the given rational function:  and ***sketch*** 

***Vertical Asymptote:***

***Horizontal Asymptote:***

***x-intercept:***

***y-intercept:***

***Hole:***

1. Express the following in terms of sums and differences of logarithms
2. Solve the equation: 
3. Given , sketch  for ***one*** cycle (***label*** *the graph*)

|  |  |
| --- | --- |
| Amplitude:  Period:  Phase Shift:  Vertical Translation: |  |

1. Trig Application
2. 
3. Find the solution of the equation that are in the interval [0, 2π)
4. Evaluate: 
5. Find the specified term of the arithmetic sequence that has two given terms
6. Find the sum of the infinite geometric series if it exists:
7. Evaluate: 
8. Find the ***center***, ***vertices, minors*** and ***foci*** of the ellipse, and then sketch the graph of
9. Find the ***center***, ***vertices***, ***endpoints***, ***foci***, and the equations of the ***asymptotes*** of the hyperbola. Sketch its graph, showing the asymptotes.
10. Prove **2** out of 3