**Math 2413 – Calculus I** ***Exam* 1 *Review***

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1. Find the slope of the parabola  at the point . Write an equation for the tangent to the parabola at this point.
2. Prove that 

***Find***

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19. If, find 
20. Find the limit as  and as  of 
21. Find an open interval about  on which the inequality holds. Then give a value for ***δ*** > 0 such that for all *x* satisfying  the inequality holds.



1. At what points is the function  continuous?
2. Show that the equation  has three solutions in the interval [−4, 4]

Find the vertical, horizontal, hole and oblique asymptotes (if any) of

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|  |  |

***Answers***

1. 
2. 











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1. The function is continuous everywhere
2. By the Intermediate Value Theorem,  for some *x* in each of the intervals , , and 
3. 
4. 
5. 
6.  ***hole*: (2, 0)**
7. 
8. 