MATH 1113 – Test 1, Part 1 Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Collaboration and help from Student Success Center is allowed.

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| Answers |
| 1. |
| 2. |
| 3. |
| 4. |
| 5. |
| 6. |
| 7. |
| 8. |
| 9. |
| 10. |
| 11. |
| 12. |
| 13. |
| 14. |
| 15. |

1. Determine whether the following ordered pairs are a function or not a function: (green, red), (red, green), (blue, green), and (yellow, red).
2. Determine the Difference Quotient for

f(x) = 129 – 3x2 + 19x.

1. Determine the coordinates of any local maximums that may exist for f(x) = .25x3 – 3x - 1.
2. Determine the coordinates of any local minimums that may exist for f(x) = .25x3 – 3x - 1.
3. Determine the inverse of the function f(x) =  .
4. Determine the range of f-1 if f(x) = .
5. Determine whether f(x) =  is Even, Odd, or Neither.
6. Determine what symmetry the graph of f(x) =  has.
7. Determine whether g(x) = | -3x5 | + 6 is Even, Odd, or Neither.
8. Determine what symmetry the graph of g(x) = | -3x5 | + 6 has.
9. Determine the domain of f(x) = 
10. Determine the Average Rate of Change for f(x) = $\frac{1}{2}$x2 – 5x + 23 from x1 = 1 to x2 = 7.
11. Determine g(f(x)) if g(x) = 2x2 - 5x + 12 and f(x) = 7 – 2x.
12. If f(x) = 2x - 3 and g(x) = 7x2 – 5x - 11, determine (f ° g)(3).
13. Determine (g ° f)(3) for f and g described in the previous problem.

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| Answers |
| 16. |
| 17. |
| 18. |
| 19. |
| 20. |

1. Determine whether function is continuous or not continuous:

 f(x) = x2 – 1, x ≤ 4

 x3 - 49, x > 4

17-19. Describe the various transformations of

y = -3|x - 7| compared to the graph of y = |x|

1. Determine the interval(s) which the function y = 2x3 – 3x2 – 36x is increasing for the interval [-4, 4].

You may write anything you like under this line.