*Mane Mikayelyan*

*07.05.2020*

ML\_EXAM TEST

1. Calculate the integral.
2. Let f(x) =
3. Find critical points of f.
4. Determine the nature of critical points

;

1. Solve the following equation

1. Solve the following problem, preferably in Python, but otherwise in your favorite programming language. Write a recursive function to find the product of odd functions smaller than N.

function sumOdd(num){

if(num < 1){

return false

}

if(num === 1){

return num;

}

else if(num % 2 != 0){

return (num) \* sumOdd(num - 2);

}

else{

return (num-1)\*sumOdd(num -1);

}

}

console.log(sumOdd(N))

1. Solve the following problem, preferably in Python, but otherwise in your favorite programming language. Duplicate the characters of a given string.

Input : ”qwert”

Output : ”qqwweerrtt”

*function duplicate (str){*

*var a = str.split('');*

*var b = [];*

*for(var i = 0; i< a.length ; i++){*

*b.push(a[i]);*

*b.push(a[i]);*

*}*

*return b*

*}*

*console.log(duplicate ('qwert'))*

1. How many zeros are there at the end of the number 23 · 214 · 359 · 188 ?

**One**, because the multiples of 21 always end with with 1, multiples of 35 with 5 and multiples of 18 with 8, 4, 2 and 6, in this case it ends with 6.

**So, 8\*1\*5\*6 ends with 1 zero.**

1. A duck was given 16, a spider was given 24, a bee was given 28. Based off of this information, how much money would be given to a cat? -
2. With the numbers 123456789, make them add up to 100. They must stay in the same order. You can use addition, subtraction, multiplication, and division. Remember, they have to stay in the same order.

**1\*2\*3+4+5+6+7+8\*9 = 100**