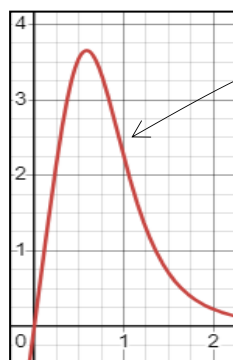# Homework Assignment 4 – due on Saturday, October 19 (Midnight)

Description of Assignment:

You are to write an MPI C program(area.c) which computes the area under the curve of a graph *f(x))*(x: 0 to 2) shown in the following figure. The MPI program uses only p2p communication (two functions MPI_Send() and MPI_Recv()). Your program should measure execution time using milliseconds and GFLOPS with the next command. You have to use **double(MPI_DOUBLE)** and **long** for variables.

  mpiexec –n #processes area #number_of_segments

$$f(x) = \frac{9x}{(x^3+1)^2}$$

Use the next code frame.

```
main(int argc, char *argv[])              // calculates local area
{                                         ...
    ....                                  // add local areas onto area on p0
    if (argc != 2) {                      ...
        fprintf(stderr, "usage: %s N\n", argv[0]);   If (pid ==0)
        exit(1);                                      // print elapsed time and GLOPS
    }                                     ...
    N = atol(argv[1]);                    }
    ...
```

Turnin the assignment:

After done your assignment, type **turnin** in your current working directory. You can retype the command at any time before the due date.