

Name:

Medgar Evers College – Mathematics
Calculus 1
MTH 202, Fall 2017
Instructor: Bart Van Steirteghem

Written Assignment #1. Due at the start of class on Monday, September 25

Answer the first question on this page, and staple your answers to the next two problems behind this sheet. The first two questions were part of CAS Lab 2.

1. Problem 2 on page 53 using the following copy of the SIR program:

```
t = 0
S = 45400
I = 2100
R = 2500
deltat = 1
nsteps = 3
for k in range(nsteps):
    Sprime = -.00001*S*I
    Iprime = .00001*S*I - I/14
    Rprime = I/14
    deltaS = Sprime*deltat
    deltaI = Iprime*deltat
    deltaR = Rprime*deltat
    t = t + deltat
    S = S + deltaS
    I = I + deltaI
    R = R + deltaR
print(t,S,I,R)
```

2. Problem 22 b) on page 56. Print and attach the modified program, and highlight the lines you changed.
3. Modify the SIR program to solve Problem 6 on page 60. Print and attach the program, and its output. In the output, mark which number is the estimate of the population of Poland in 1990, and which number is the estimate of the population of Afghanistan in 1990.