Computational Physics 3

HW6

Christopher Morris

***Question 1***

Chart, line chart

Description automatically generated

The numeric solution is almost exactly the fundamental solution at t = 5

Chart, line chart

Description automatically generated

***Question 2***

a)

D: 1, L: 10; Time for right to reach .5 is 37.90000000000027

D: 4, L: 10; Time for right to reach .5 is 9.599999999999982

D: 1, L: 5; Time for right to reach .5 is 9.599999999999982

Yes they agree.

b)

.5

***Question 3***

dt = .005 and J = 1501

for all pbar/tmax pairs.

I ran out of time to do through more exact testing in order to narrow down the numbers more.

***Question 4***

Using dt = .005 and J = 1501

***Diagram

Description automatically generated***

***Diagram

Description automatically generated***

***Diagram

Description automatically generated***

A picture containing diagram

Description automatically generated