<https://www.physicsforums.com/threads/ordinary-differential-equations.395474/>

<http://math.stackexchange.com/questions/549229/water-flows-from-an-inverted-conical-tank-with-a-circular-orifice>

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Simpson’s Rule and the Romberg Algorithm

3/22/2017

Funcion : f(x)=e-x2

Evaluated from 0 to 1

Simpson's rule with 20 subinterval :0.746824

Simpson's rule with 50 subinterval :0.746824

Romberg’s algorithm with 6 rows

R(1,1) 0.68394

R(2,1) 0.73137 R(2,2) 0.74718

R(3,1) 0.742984 R(3,2) 0.746855 R(3,3) 0.746834

R(4,1) 0.745866 R(4,2) 0.746826 R(4,3) 0.746824 R(4,4) 0.746824

R(5,1) 0.746585 R(5,2) 0.746824 R(5,3) 0.746824 R(5,4) 0.746824 R(5,5) 0.746824

R(6,1) 0.746764 R(6,2) 0.746824 R(6,3) 0.746824 R(6,4) 0.746824 R(6,5) 0.746824 R(6,6) 0.746824

Funcion : g(x)=sqrt(x\*cosx)

Evaluated from 0 to 1

Simpson's rule with 20 subinterval :0.591876

Simpson's rule with 50 subinterval :0.592554

Romberg’s algorithm with 6 rows

R(1,1) 0.367526

R(2,1) 0.51497 R(2,2) 0.564118

R(3,1) 0.565724 R(3,2) 0.582641 R(3,3) 0.583876

R(4,1) 0.583328 R(4,2) 0.589197 R(4,3) 0.589634 R(4,4) 0.589725

R(5,1) 0.589468 R(5,2) 0.591515 R(5,3) 0.59167 R(5,4) 0.591702 R(5,5) 0.59171

R(6,1) 0.591618 R(6,2) 0.592335 R(6,3) 0.592389 R(6,4) 0.592401 R(6,5) 0.592404 R(6,6) 0.592404