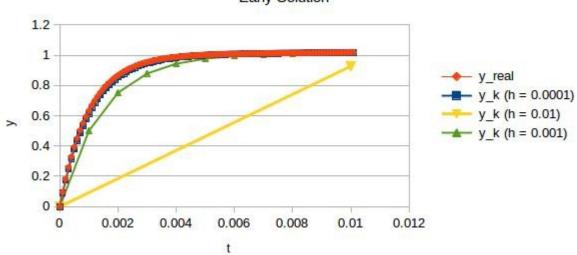
Problem 1:

(a)

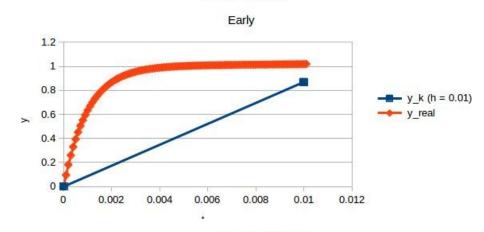
Implicit Eulers



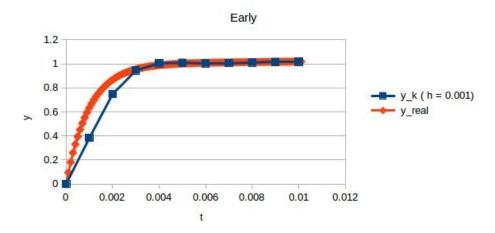


(b)

Gear's 3-Point

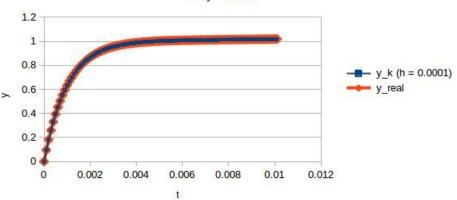


Gear's 3-Point



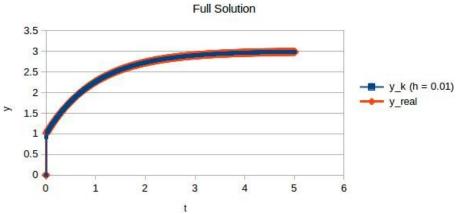
Gears 3-Point





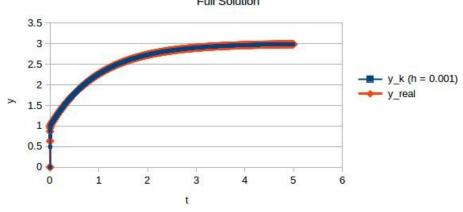
(c)

Implicit Euler's



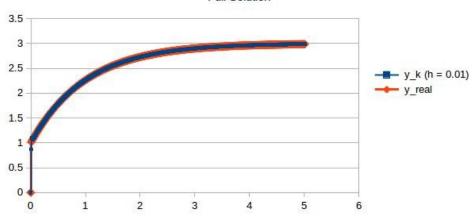
Implicit Euler's

Full Solution



Gear's 3-Point

Full Solution



Problem 2:

Χ	theta_est	theta_real
0	1	1
0.1	0.171573	0.135335
0.2	0.0294373	0.0183156
0.3	0.00505063	0.00247875
0.4	0.000866552	0.000335463
0.5	0.000148677	4.53999E-005
0.6	2.55089E-005	6.14421E-006
0.7	4.37675E-006	8.31534E-007
8.0	7.51562E-007	1.12573E-007
0.9	1.32622E-007	1.55082E-008
1	4.41705E-008	4.11716E-009

Divided Differences Estimation

