

$$u'' = 400u - 401\sin x$$

$$u(0) = 0, u(1) = \sin 1$$

$$h = 0.25$$

$$n = 3$$

$$D = 0.229630; Y = 0.247340$$

$$D = 0.454035; Y = 0.478181$$

$$D = 0.651044; Y = 0.651044$$

$$h = 0.125$$

$$n = 8$$

$$D = 0.094697; Y = 0.124684$$

$$D = 0.202330; Y = 0.247390$$

$$D = 0.307327; Y = 0.366284$$

$$D = 0.407342; Y = 0.479140$$

$$D = 0.501168; Y = 0.583497$$

$$D = 0.587118; Y = 0.669085$$

$$D = 0.666139; Y = 0.666139$$

$$h = 0.0625$$

$$n = 16$$

$$D = 0.027412; Y = 0.062400$$

$$D = 0.067867; Y = 0.124645$$

$$D = 0.110401; Y = 0.186336$$

$$D = 0.152939; Y = 0.247381$$

$$D = 0.194936; Y = 0.307459$$

$$D = 0.236157; Y = 0.366301$$

$$D = 0.276419; Y = 0.423660$$

$$D = 0.315546; Y = 0.479317$$

$$D = 0.353605; Y = 0.533124$$

$$D = 0.390135; Y = 0.584390$$

$$D = 0.425236; Y = 0.632360$$

$$D = 0.458578; Y = 0.674253$$

$$D = 0.490180; Y = 0.702087$$

$$D = 0.519927; Y = 0.689823$$

$$D = 0.553064; Y = 0.553064$$

$$y'' = x + y$$

$$y(0) = y(1) = 0$$

$$h = 0.25$$

$$n = 4$$

$$D = -0.007576; Y = -0.034885$$

$$D = -0.024610; Y = -0.056326$$

$$D = -0.050037; Y = -0.050037$$

$$h = 0.125$$

$$n = 8$$

$$D = -0.000969; Y = -0.018337$$

$$D = -0.003208; Y = -0.035007$$

$$D = -0.006680; Y = -0.048318$$

$$D = -0.011331; Y = -0.056524$$

$$D = -0.017100; Y = -0.057801$$

$$D = -0.023914; Y = -0.050216$$

$$D = -0.031696; Y = -0.031696$$

$$h = 0.0625$$

$$n = 16$$

$$D = -0.000122; Y = -0.009280$$

$$D = -0.000405; Y = -0.018353$$

$$D = -0.000850; Y = -0.027008$$

$$D = -0.001452; Y = -0.035037$$

$$D = -0.002212; Y = -0.042227$$

$$D = -0.003125; Y = -0.048360$$

$$D = -0.004189; Y = -0.053217$$

$$D = -0.005401; Y = -0.056574$$

$$D = -0.006756; Y = -0.058198$$

$$D = -0.008251; Y = -0.057852$$

$$D = -0.009881; Y = -0.055291$$

$$D = -0.011642; Y = -0.050261$$

$$D = -0.013528; Y = -0.042497$$

$$D = -0.015536; Y = -0.031725$$

$$D = -0.017659; Y = -0.017659$$

$$y'' = y$$

$$y(0) = 0, y(1) = -1$$

h=0.25

n=3

D = -0.000000; Y = -0.215115

D = -0.000000; Y = -0.443674

D = -0.699963; Y = -0.699963

h=0.125

n=8

D = -0.000000; Y = -0.106663

D = -0.000000; Y = -0.214993

D = -0.000000; Y = -0.326682

D = -0.000000; Y = -0.443476

D = -0.000000; Y = -0.567199

D = -0.000000; Y = -0.699784

D = -0.843304; Y = -0.843304

h=0.0625

n=16

D = -0.000000; Y = -0.053220

D = -0.000000; Y = -0.106647

D = -0.000000; Y = -0.160491

D = -0.000000; Y = -0.214963

D = -0.000000; Y = -0.270273

D = -0.000000; Y = -0.326640

D = -0.000000; Y = -0.384282

D = -0.000000; Y = -0.443426

D = -0.000000; Y = -0.504302

D = -0.000000; Y = -0.567147

D = -0.000000; Y = -0.632209

D = -0.000000; Y = -0.699739

D = -0.000000; Y = -0.770003

D = -0.000000; Y = -0.843275

D = -0.919841; Y = -0.919841