

Quiz #3, Problem 1

(%i1) `ode2((x*exp(x*y)+exp(x)+2*x*y+1)*'diff(y,x)+(y*exp(x*y)+y*exp(x)+y^2)=0`
 (%o1) $e^{xy} + xy^2 + (e^x + 1)y = \%C$

Quiz #3, Problem 2 with m=n=1

(%i2) `ode2((2*x*y^3-6*x^2*y^2)+(3*x^2*y^2-4*x^3*y)*'diff(y,x)=0, y, x);`
 (%o2) $x^2 y^3 - 2 x^3 y^2 = \%C$

Quiz #3, Problem 3

(%i3) `ode2(sin(x)*'diff(y,x)+y*cos(x)=x*sin(x), y, x);`
 (%o3) $y = \frac{\sin(x) - x \cos(x) + \%C}{\sin(x)}$

(%i4) `ic1(%, x=%pi/2, y=2);`
 (%o4) $y = \frac{\sin(x) - x \cos(x) + 1}{\sin(x)}$