

Quiz #2, Problem 1

(%i1) ode2('diff(y,x)=x*y^3+3*x^2*y^3, y, x);

(%o1) $-\frac{1}{2y^2} = \frac{2x^3 + x^2}{2} + \%C$

(%i2) ic1(%, x=1, y=1/2);

(%o2) $-\frac{1}{2y^2} = \frac{2x^3 + x^2 - 7}{2}$

Quiz #2, Problem 2

(%i3) ode2(x*'diff(y,x)=1+x+y, y, x);

(%o3) $y = x \left(\log(x) - \frac{1}{x} + \%C \right)$

(%i4) ic1(%, x=1, y=4);

(%o4) $y = x \log(x) + 5x - 1$

Quiz #2, Problem 3

(%i5) ode2('diff(A,t)=8-3*A/(10-t), A, t);

(%o5) $A = \left(\%C - \frac{4}{(t-10)^2} \right) (t-10)^3$

(%i6) ic1(%, t=0, A=0);

(%o6) $A = \frac{t^3 - 30t^2 + 200t}{25}$