

§ 5 משוואות דיפרנציאליות שונות מסדר ראשון.

- $$2xy' + y^2 = 1 \quad .167$$
- $$xy' + x^2 + xy - y = 0 \quad .166$$
- $$y - y' = y^2 + xy' \quad .169$$
- $$(2xy^2 - y)dx + xdy = 0 \quad .168$$
- $$x^2y' = y(x + y) \quad .171$$
- $$(x + 2y^3)y' = y \quad .170$$
- $$y + y' \ln^2 y = (x + 2 \ln y)y' \quad .173$$
- $$(1 - x^2)dy + xydx = 0 \quad .172$$
- $$y = (xy' + 2y)^2 \quad .175$$
- $$x^2y' - 2xy = 3y \quad .174$$
- $$x - \frac{y}{y'} = \frac{2}{y} \quad .177$$
- $$y' = 1 / (x - y^2) \quad .176$$
- $$2x^3yy' + 3x^2y^2 + 7 = 0 \quad .179$$
- $$(x + y)^2y' = 1 \quad .178$$
- $$xy' = e^y + 2y' \quad .181$$
- $$\frac{dx}{x} = \left(\frac{1}{y} - 2x\right)dy \quad .180$$
- $$dy + (xy - xy^3)dx = 0 \quad .183$$
- $$2(x - y^2)dy = ydx \quad .182$$
- $$\frac{y - xy'}{x + yy'} = 2 \quad .185$$
- $$2x^2y' = y^2(2xy' - y) \quad .184$$
- $$(1 - x^2)y' - 2xy^2 = xy \quad .187$$
- $$y(y - xy') = \sqrt{x^4 + y^4} \quad .186$$
- $$(xy^4 - x)dx + (y + yx)dy = 0 \quad .189$$
- $$y' + y = xy^3 \quad .188$$
- $$yy' + y^2 \cot x = \cos x \quad .191$$
- $$(\sin x + y)dy + (y \cos x - x^2)dx = 0 \quad .190$$
- $$x(x + 1)(y' - 1) = y \quad .193$$
- $$(e^y + 2xy)dx + (e^y + x)xdy = 0 \quad .192$$
- $$y' + x\sqrt[3]{y} = 3y \quad .195$$
- $$x^2(dy - dx) = (x + y)ydx \quad .194$$
- $$y' = \frac{x}{y} e^{2x} + y \quad .197$$
- $$(x \cos y + \sin 2y)y' = 1 \quad .196$$
- $$y'\sqrt{x} = \sqrt{y-x} + \sqrt{x} \quad .199$$
- $$(4xy - 3)y' + y^2 = 1 \quad .198$$

- $(Cx + 1)y = Cx - 1; y = 1$.167
 $y = x(Ce^{-x} - 1)$.166
- $y(x + C) = x + 1; y = 0$.169
 $y(x^2 - C) = x; y = 0$.168
- $y \ln Cx = -x; y = 0$.171
 $x = Cy + y^3; y = 0$.170
- $x = Cy + \ln^2 y$.173
 $y^2 = C(x^2 - 1); x = \pm 1$.172
- $4x^2y = (x + 2C)^2; y = 0$.175
 $y = Cx^2e^{-3/x}$.174
- $y^2 = C(xy - 1); xy = 1$.177
 $x = Ce^y + y^2 + 2y + 2$.176
- $x^3y^2 + 7x = C$.179
 $x + y = \tan(y - x)$.178
- $-e^{-y} = \ln C(x - 2)$.181
 $y(xy - 1) = Cx$.180
- $y^2(Ce^{x^2} + 1) = 1; y = 0$.183
 $x = y^2(C - 2 \ln |y|); y = 0$.182
- $\ln(x^2 + y^2) + \arctan(y/x) = C$.185
 $y^2 = 2x \ln Cy; y = 0$.184
- $y(\sqrt{|x^2 - 1|} - 2) = 1; y = 0$.187
 $y^2 + \sqrt{x^4 + y^4} = C$.186
- $y^2 - 1 = C(x + 1)^4 e^{-4x}(y^2 + 1); x = -1$.189
 $y^2(Ce^{2x} + x + 0.5) = 1; y = 0$.188
- $3y^2 = 2 \sin x + C \sin^{-2} x$.191
 $y \sin x - \frac{x^3}{3} - \frac{y^2}{2} = C$.190
- $(x + 1)y = x^2 + x \ln Cx$.193
 $x(e^y + xy) = C$.192
- $y^{2/3} = Ce^{2x} + (x/3) + (1/6); y = 0$.195
 $y = x \tan \ln C; x = 0$.194
- $y^2 = (x^2 + C)e^{2x}$.197
 $x = Ce^{\sin y} - 2(1 + \sin y)$.196
- $\sqrt{y-x} - \sqrt{x} = C; y = x$.199
 $x(y^2 - 1)^2 = y^3 - 3y + C$.198
- $y = C_2 e^{C_1 x}$.201
 $4(C_1 y - 1) = C_1^2(x + C_2)^2$.200