

1. Asagidaki homogen diferansiyel denklemlerin genel cozumlerini bulunuz.

(a) $(2x + y)dx - (2y - x)dy = 0.$

(b) $(2\sqrt{xy} - x)dy + ydx = 0.$

(c) $(x^3 + y^3)dx + 3xy^2dy = 0.$

(d) $xydy - y^2dx = (x + y)^2 e^{-y/x} dx.$

(e) $xydx - (x^2 + 3y^2)dy = 0.$

2. Asagidaki Bernoulli diferansiyel denklemlerinin genel cozumlerini bulunuz.

(a) $\frac{dy}{dx} - \frac{2}{x}y = y^4.$

(b) $(2xy^5 - y)ydx + 2xydy = 0.$

(c) $\cos x \frac{dy}{dx} - y \sin x = -y^2.$

(d) $y' - y = xy^2.$