

微分方程

Exercise 6 (Chapter 2)

1. In the following Exercises, find the general solution.

7. $y' = \csc x + y \cot x$.

9. $(y - \cos^2 x) dx + \cos x dy = 0$.

11. $(y - x + xy \cot x) dx + x dy = 0$.

13. $(2xy + x^2 + x^4) dx - (1 + x^2) dy = 0$.

21. $y' = 1 + 3y \tan x$.

2. In the following Exercises, find the particular solution indicated.

27. $(2x + 3)y' = y + (2x + 3)^{1/2}$; when $x = -1$, $y = 0$.

33. $(1 + t^2) ds + 2t[st^2 - 3(1 + t^2)^2] dt = 0$; when $t = 0$, $s = 2$.