Numerical Analysis

EIGHTH EDITION

Richard L. Burden
Youngstown State University

J. Douglas Faires
Youngstown State University

CHAPTER

10

Numerical Solutions of Nonlinear Systems of Equations

10.1 Fixed Points for Functions of Several Variables

Figure 10.1

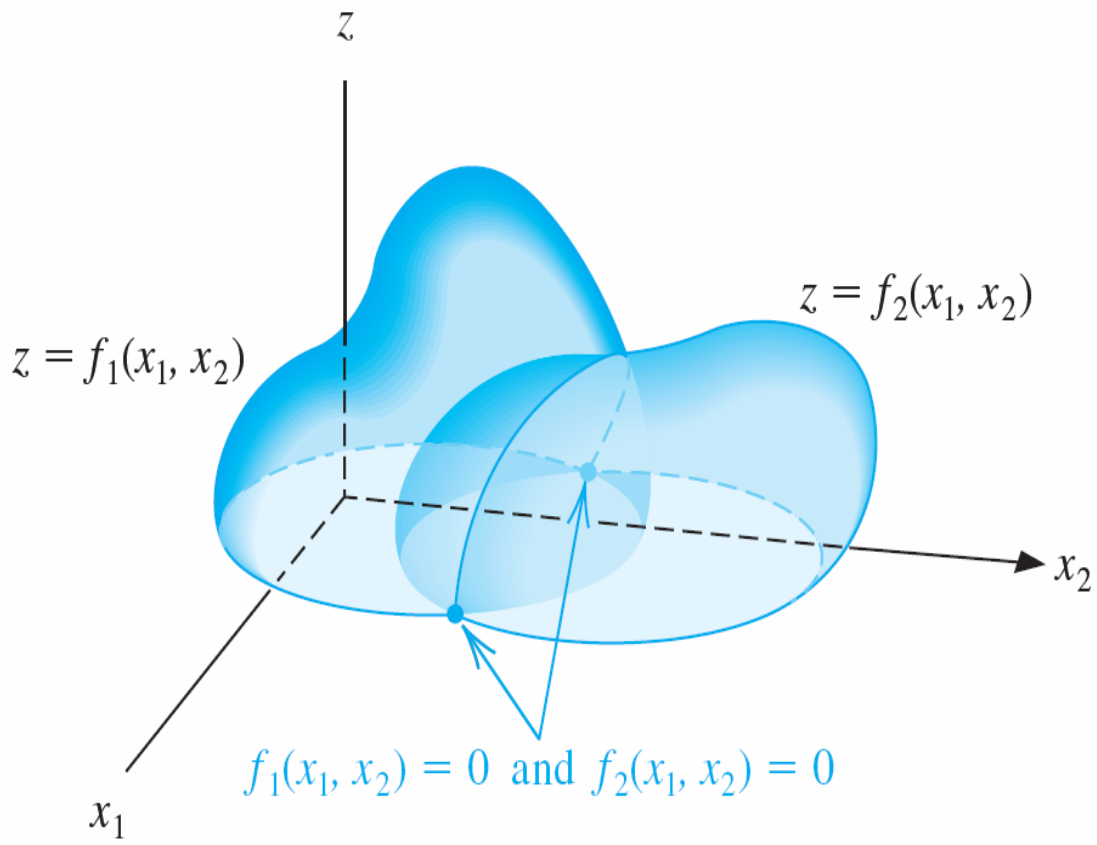


Figure 10.2

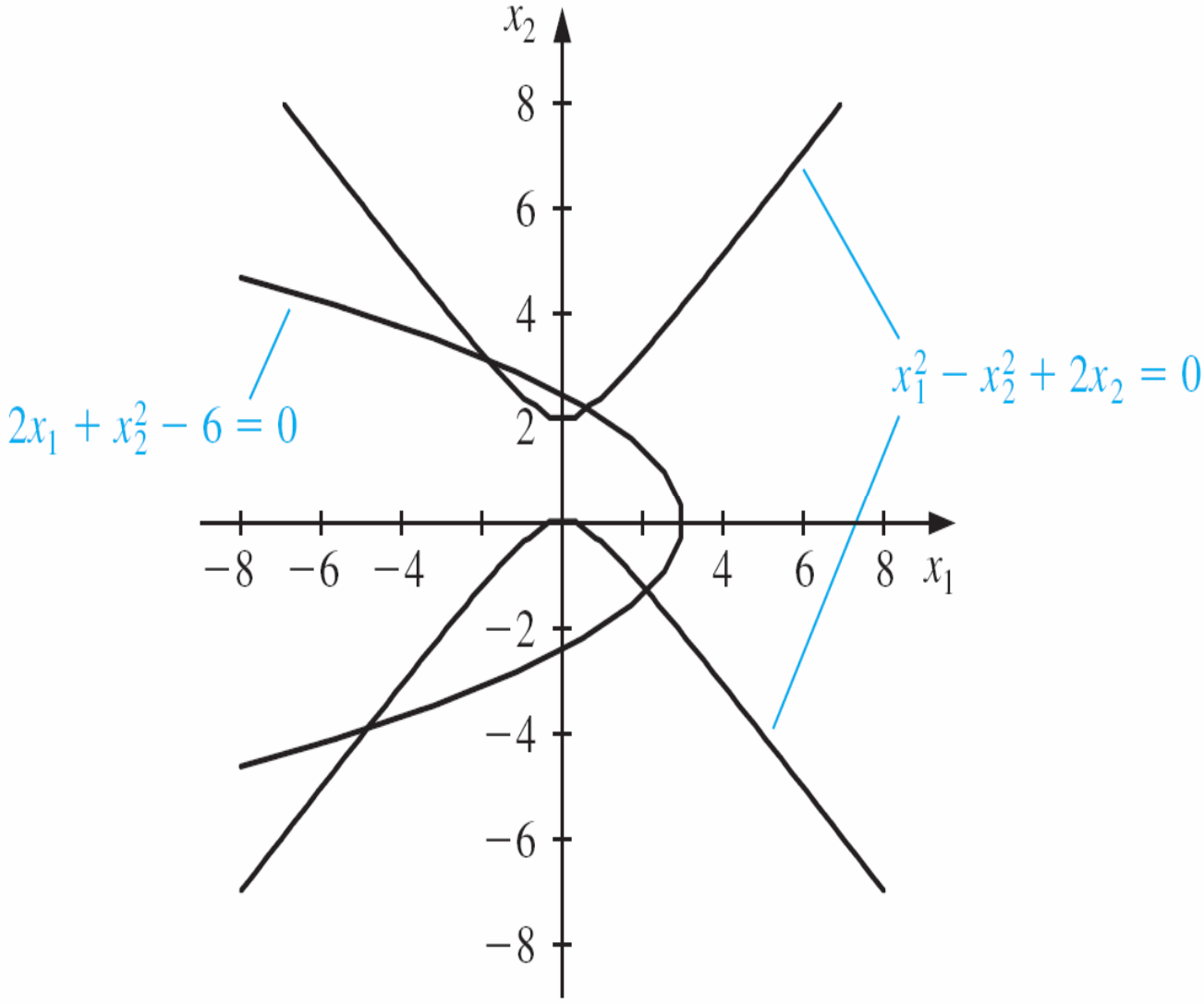
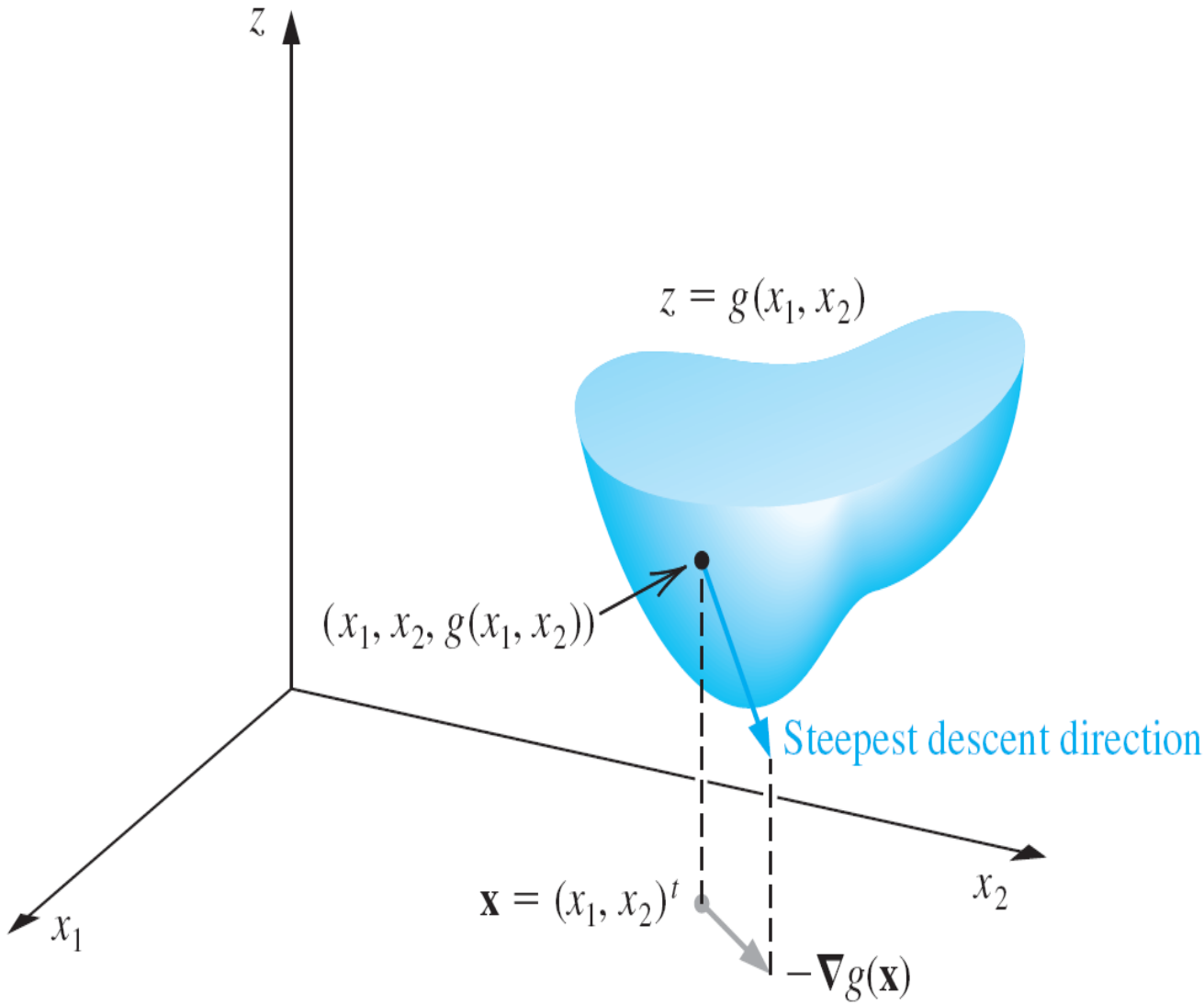


Figure 10.3


z
$z = g(x_1, x_2)$
$(x_1, x_2, g(x_1, x_2))$
Steepest descent direction
x_1
x_2
$\mathbf{x} = (x_1, x_2)^t$
$-\nabla g(\mathbf{x})$