

Chapter 11. Discrimination and Classification.

1. Example 11.1 (Owners/Nonowners of riding-mower)

TABLE 11.1

π_1 : Riding-mower owners		π_2 : Nonowners	
x_1 (Income in \$1000s)	x_2 (Lot size in 1000 ft ²)	x_1 (Income in \$1000s)	x_2 (Lot size in 1000 ft ²)
60.0	18.4	75.0	19.6
85.5	16.8	52.8	20.8
64.8	21.6	64.8	17.2
61.5	20.8	43.2	20.4
87.0	23.6	84.0	17.6
110.1	19.2	49.2	17.6
108.0	17.6	59.4	16.0
82.8	22.4	66.0	18.4
69.0	20.0	47.4	16.4
93.0	20.8	33.0	18.8
51.0	22.0	51.0	14.0
81.0	20.0	63.0	14.8

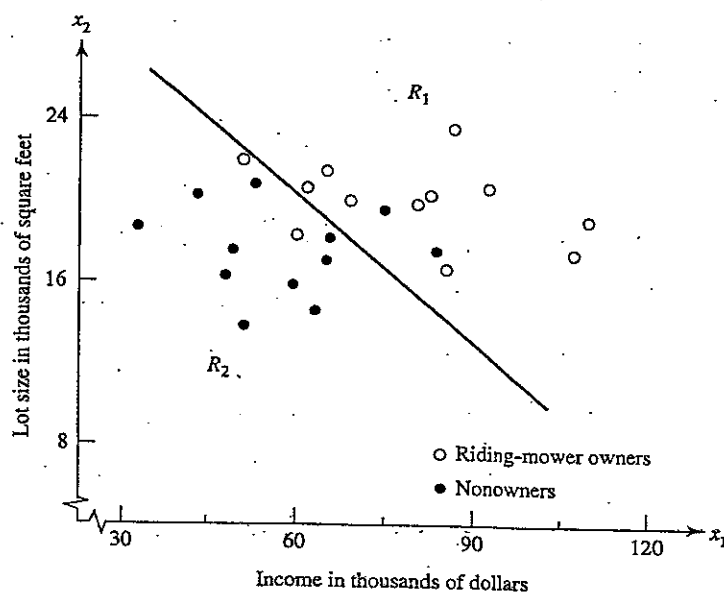
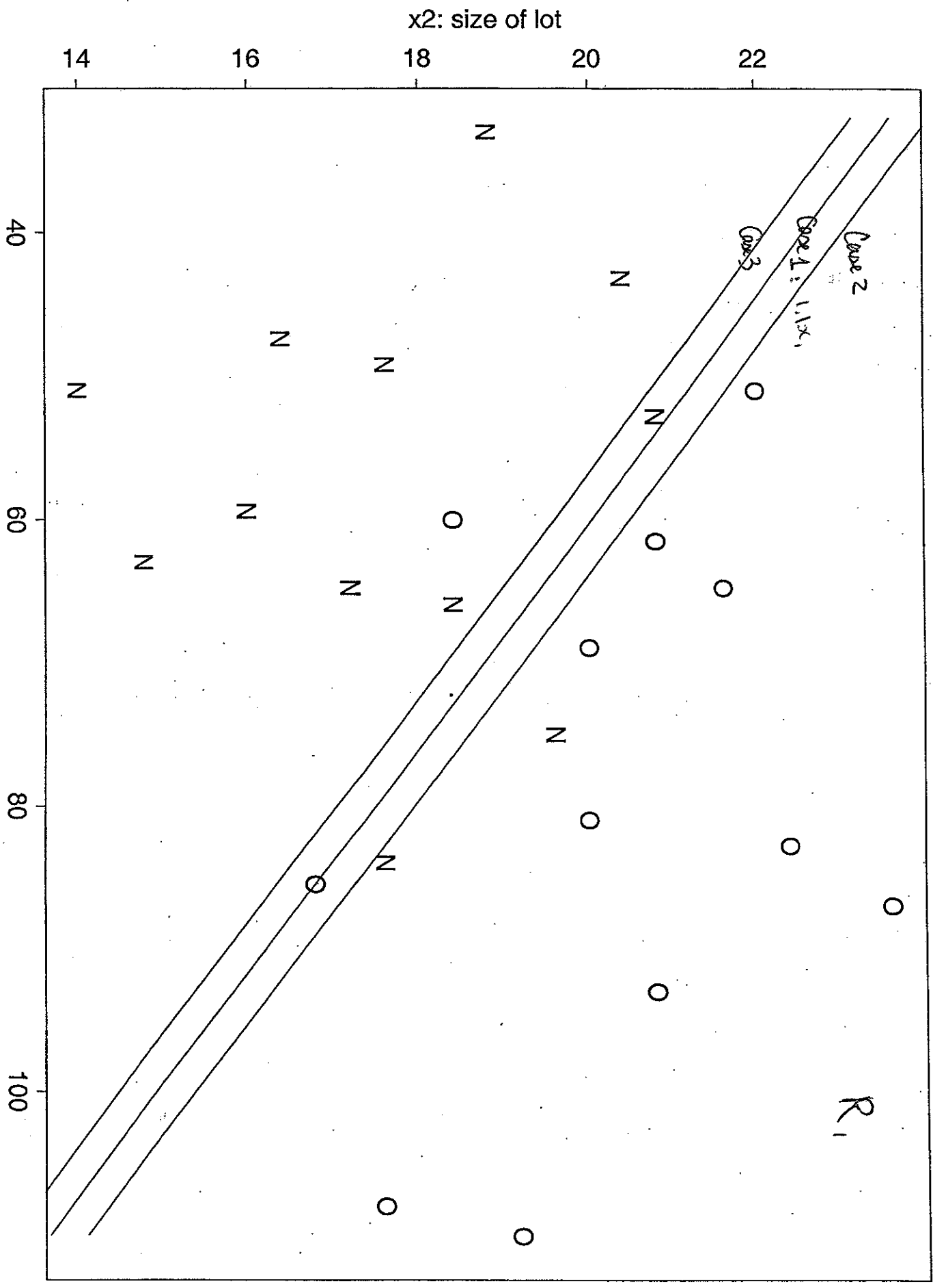


Figure 11.1 Income and lot size for riding-mower owners and nonowners.



Example 11.2. Analysis of Hemophilia Data

3

TABLE 11.8. HEMOPHILIA DATA

Noncarriers (π_1)			Obligatory carriers (π_2)		
Group	$\log_{10}(\text{AHF activity})$	$\log_{10}(\text{AHF antigen})$	Group	$\log_{10}(\text{AHF activity})$	$\log_{10}(\text{AHF antigen})$
1	-.0056	-.1657	2	-.3478	.1151
1	-.1698	-.1585	2	-.3618	-.2008
1	-.3469	-.1879	2	-.4986	-.0860
1	-.0894	.0064	2	-.5015	-.2984
1	-.1679	.0713	2	-.1326	.0097
1	-.0836	.0106	2	-.6911	-.3390
1	-.1979	-.0005	2	-.3608	.1237
1	-.0762	.0392	2	-.4535	-.1682
1	-.1913	-.2123	2	-.3479	-.1721
1	-.1092	-.1190	2	-.3539	.0722
1	-.5268	-.4773	2	-.4719	-.1079
1	-.0842	.0248	2	-.3610	-.0399
1	-.0225	-.0580	2	-.3226	.1670
1	.0084	.0782	2	-.4319	-.0687
1	-.1827	-.1138	2	-.2734	-.0020
1	.1237	.2140	2	-.5573	.0548
1	-.4702	-.3099	2	-.3755	-.1865
1	-.1519	-.0686	2	-.4950	-.0153
1	.0006	-.1153	2	-.5107	-.2483
1	-.2015	-.0498	2	-.1652	.2132
1	-.1932	-.2293	2	-.2447	-.0407
1	.1507	.0933	2	-.4232	-.0998
1	-.1259	-.0669	2	-.2375	.2876
1	-.1551	-.1232	2	-.2205	.0046
1	-.1952	-.1007	2	-.2154	-.0219
1	.0291	.0442	2	-.3447	.0097
1	-.2228	-.1710	2	-.2540	-.0573
1	-.0997	-.0733	2	-.3778	-.2682
1	-.1972	-.0607	2	-.4046	-.1162
1	-.0867	-.0560	2	-.0639	.1569
			2	-.3351	-.1368
			2	-.0149	.1539
			2	-.0312	.1400
			2	-.1740	-.0776
			2	-.1416	.1642
			2	-.1508	.1137

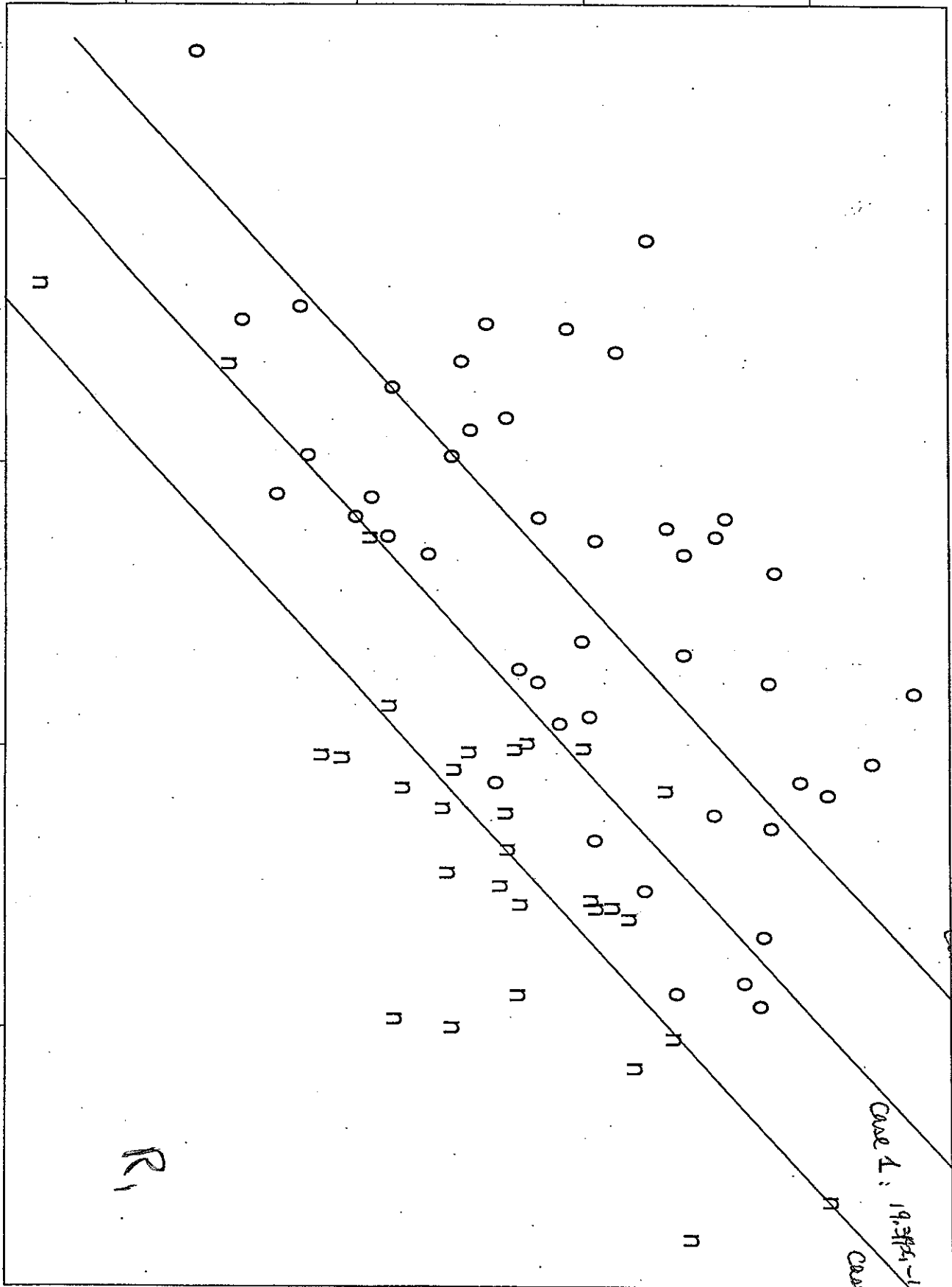
(continued)

x2: AHF antigen

-0.4 -0.2 0.0 0.2

-0.6 -0.4 -0.2 0.0

ad. AHF activity



Case 3: 19.3194-17.124x₂ ≈ -5.862

Case 1: 19.3194-17.124x₂ ≈ -3.5548

Case 2: 19.3194-17.124x₂ ≈ -3.5548

R₁