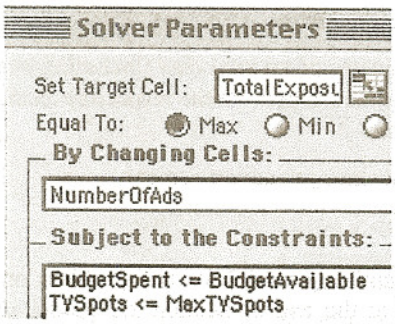
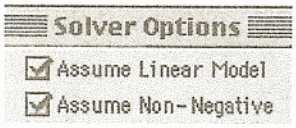
CS3

FIGURE 4.1 The spreadsheet model for the Super Grain problem (Section 4.1), including the target cell TotalExposures (H13) and the other output cells BudgetSpent (F8:F9), as well as the specifications needed to set up the Solver. The changing cells NumberOfAds (C13:E13) show the optimal solution obtained by the Solver.

	A	B	C	D	E	F	G	H
1		**Super Grain Corp. Advertising-Mix Problem**						
2								
3			TV Spots	Magazine Ads	SS Ads			
4		Exposures per Ad	1,300	600	500			
5		(thousands)						
6						Budget		Budget
7			Cost per Ad ($thousands)			Spent		Available
8		Ad Budget	300	150	100	4,000	≤	4,000
9		Planning Budget	90	30	40	1,000	≤	1,000
10								
11								Total Exposures
12			TV Spots	Magazine Ads	SS Ads			(thousands)
13		Number of Ads	0	20	10			17,000
14			≤					
15		Max TV Spots	5					





	F
6	Budget
7	Spent
8	=SUMPRODUCT(C8:E8,NumberOfAds)
9	=SUMPRODUCT(C9:E9,NumberOfAds)

	H
11	Total Exposures
12	(thousands)
13	=SUMPRODUCT(ExposuresPerAd,NumberOfAds)

Range Name	Cells
BudgetAvailable	H8: H9
BudgetSpent	F8: F9
CostPerAd	C8: E9
ExposuresPerAd	C4: E4
MaxTVSpots	C15
NumberOfAds	C13: E13
TotalExposures	H13
TVSpots	C13

The Data

One important kind of data is the information given earlier about the amounts available of the three resources for the problem (the advertising budget, the planning budget, and the commercial spots available). Table 4.1 provides the other key data for the problem. Using units of thousands of dollars, these data have been transferred directly into data cells in the spreadsheet in Figure 4.1 and given these range names: ExposuresPerAd (C4:E4), CostPerAd (C8:E9), BudgetAvailable (H8:H9), and MaxTVSpots (C15).