PROBLEM SOLVING

EXAMPLE 3 on p. 189 for Exs. 31-34

31. SNOWBOARD SALES A sporting goods store sells snowboards in several different styles and lengths. The matrices below show the number of each type of snowboard sold in 2003 and 2004. Write a matrix giving the change in sales for each type of snowboard from 2003 to 2004.

		Sales fo	or 2003						
	150 cm	155 cm	160 cm	165 cm	1	50 cm	155 cm	160 cm	165 cm
Freeride	32	42	29	20		32	47	30	19
Alpine Freestyle	12	17	25	16		5	16	20	14
Freestyle	_28	40	32	21		29	39	36	31

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32. FUEL ECONOMY A car dealership sells four different models of cars. The fuel economy (in miles per gallon) is shown below for each model. Organize the data using a matrix. Then write a new matrix giving the fuel economy figures for next year's models if each measure of fuel economy increases by 8%.

Economy car: 32 mpg in city driving, 40 mpg in highway driving Mid-size car: 24 mpg in city driving, 34 mpg in highway driving Mini-van: 18 mpg in city driving, 25 mpg in highway driving SUV: 19 mpg in city driving, 22 mpg in highway driving

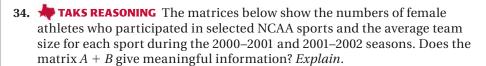
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(33.) 🦊 TAKS REASONING In a certain city, an electronics chain has a downtown store and a store in the mall. Each store carries three models of digital camera. Sales of the cameras for May and June are shown.

Downtown sales: 31 of model A, 42 of model B, 18 of model C 22 of model A, 25 of model B, 11 of model C Mall sales:

June Downtown sales: 25 of model A, 36 of model B, 12 of model C Mall sales: 38 of model A, 32 of model B, 15 of model C

- **a.** Organize the information using two matrices *M* and *J* that represent the sales for May and June, respectively.
- **b.** Find M + I and describe what this matrix sum represents.
- c. Write a matrix giving the average monthly sales for the two month period.



2000-	2001 (<i>A</i>)		2001–2002 (<i>B</i>)		
Athletes	Team size		Athletes	Team size	
14,439	14.5	Basketball	T14,524	14.3	
1,397	15.7	Gymnastics	1,440	16.2	
526	11.9	Skiing	496	11.0	
18,548	22.5	Soccer	19,467	22.4	
	Athletes 14,439 1,397 526	Athletes Team size 14,439 14.5 1,397 15.7 526 11.9	1,397 15.7 Gymnastics 526 11.9 Skiing		