

**3.3** An automobile dealer sells two brands of new cars. One, C, is primarily American in origin; the other, G, is primarily Japanese. The dealer performs repair work under warranty for both brands. Each warranty job is classified according to the primary problem to be fixed. If there is more than one problem in a given job, all problems are listed separately. Records for the past year indicate the following numbers of problems:

*Problem Area*

	Engine	Transmission	Exhaust	Fit/Finish	Other	Total
C	106	211	67	133	24	541
G	21	115	16	24	6	182
Total	127	326	83	157	30	723

- What is the probability that a randomly chosen problem comes from brand C?
- Serious problems are those involving the engine or transmission. What is the probability that a randomly chosen problem is serious?
- The dealer is fully reimbursed for all brand C problems and all brand G engine, transmission, and fit/finish problems. What is the probability that a randomly chosen problem is *not* fully reimbursed?