

**AP Stats**  
**Chap 14 Handout**

Name \_\_\_\_\_ Pd \_\_\_\_\_

**Place your answers on / in the spaces provided.**

***Local Cars.***

A survey of local car dealers revealed that 64% of all cars sold last month had CD players, 28% had alarm systems, and 22% had both CD players and alarm systems.

1. What is the probability one of these cars selected at random had neither a CD player nor an alarm system? 1. \_\_\_\_\_
2. What is the probability that a car had a CD player unprotected by an alarm system? 2. \_\_\_\_\_
3. What is the probability a car with an alarm system had a CD player? 3. \_\_\_\_\_
4. Are having a CD player and an alarm system disjoint events? Explain.

***Airline Passengers.***

4. All airline passengers must pass through security screenings, but some are subjected to additional searches as well. Some travelers who carry laptops wonder if that makes them more likely to be searched. Data for 420 passengers abroad a cross-country flight are summarized in the table shown. Does it appear that being subjected to an additional search is independent of carrying a laptop computer? Explain.

	Searched?		Total
	Yes	No	
Laptop	30	42	72
No Laptop	145	203	348
Total	175	245	420

***Campus Housing.***

5. For purposes of making on-campus housing assignments, a college classifies its students as Priority A (seniors), Priority B (juniors), and Priority C (sophomores and freshmen). Of the students who choose to live on campus, 10% are seniors, 20% are juniors, and the rest are underclassmen. The most desirable dorm is the newly constructed Gold dorm, and 60% of the seniors elect to live there. 15% of the juniors also live there, along with 5% of the freshmen and sophomores. What is the probability that a randomly selected resident of the Gold dorm is a senior?