

AP Stats

Problems using the Addition Rule (5.2 HW)

1. A bag contains marbles: 18 red, 12 green, 15 blue, 12 white, and 7 black. A marble is chosen. Find the probabilities of choosing:

- a) red
- b) black or white
- c) red or green
- d) red, green or blue
- e) not white
- f) not white or black

2. Jerrold's TV can pick up 120 stations. At 8 PM, 42 stations are showing commercials. Of the stations not showing commercials, the following programs are being shown: 18 sports, 25 movies, 7 news shows, 13 comedy programs, 12 drama programs, and 3 are sales program (like QVC). A station is chosen at random: Find the following probabilities:

- a) choosing a news show
- b) choosing a commercial
- c) a comedy or drama
- d) sports, movie or news
- e) not a sales program
- f) neither sports or a movie

3. A pet store has 25 pets, 16 dogs and 9 cats. Of the dogs, 13 are puppies and of the cats 6 are kittens. A pet is chosen at random. Find the following probabilities:

- a) a dog
- b) a cat
- c) a puppy
- d) a kitten
- e) a puppy or a kitten
- d) neither a puppy or kitten

4. A rental car lot has 49 American made cars and 26 Foreign cars. Of the American cars, 35 of them are white and of the foreign cars, 15 are white. A car is chosen at random. Find the probabilities:

- a) American
 - b) foreign
 - c) American or foreign
 - d) not white
 - e) American or white
 - f) Foreign or not white

5. A pizza shop has two sizes of pizzas, large and small. On a certain day, a pizza shop made 59 plain pizzas and 72 pizzas with toppings. Of the 59 plain pizzas, 19 were small and of the 72 pizzas with toppings, 42 were large. A pizza is chosen at random. Find the following probabilities.

- a) large b) small c) with toppings
- d) plain e) large plain f) small with toppings
- g) small or plain h) large or with toppings i) small or large

6. A computer store stocks the computers according to the following chart:

	Dell	HP	Mac
Laptop	20	25	12
Desktop	19	32	8

A computer is chosen at random. Find the probability of choosing

- a) a Mac b) a Dell or HP c) a laptop
- d) a Mac laptop e) a Mac or laptop f) a Dell or desktop

5.3 WS #2

Picking Two Sneezers

This is a two-way table that classified 40 students according to their gender and whether they had allergies.

	Female	Male	Total
Allergies	10	8	18
No Allergies	13	9	22
Total	23	17	40

Suppose we chose 2 students at random.

- Draw a tree diagram or chart that shows the sample space for this chance process.
- Find the probability that both students selected suffer from allergies.
- Find the probability that neither student selected suffers from allergies.
- Find the probability that at least one student selected suffers from allergies.
- Find the probability that only one student selected suffers from allergies.

