Name: _____ Date: _____

Conditional Probability from Tables

The frequencies of the marbles in a bag are shown in the table. Write answers as reduced fractions.

10/13 1. Find P(small) 20/26

1/3 2. Find P(green | large) 2/6

	GREEN	BLUE	
LARGE	2	4	6
SMALL	8	12	20
	10	16	26

A town planning committee is considering a new system for public transit. Residents of the town were randomly selected to answer two questions: "Do you work less than 5 miles from home?" and "Would you use the new system to get to work, if it were available?" The results are shown in the table below. Write answers as reduced fractions.

		Work less than 5 miles from home? YES	NO	
Use new system?	YES	24	32	56
	NO	44	20	46
		68	52	120

6/17 3. If residents work less than 5 miles from home, what is the probability that they would use the new system? 24/68

4/7 4. If residents are willing to use the new system, what is the probability that they don't work less than 5 miles from home? 32/56

The table shows the results of a poll of randomly selected high school students who were asked if they prefer to hear all school announcements in the morning or afternoon. Write answers as reduced fractions.

	Underclassmen	Upperclassmen	
Morning	8	14	22
Afternoon	18	10	28
	26	24	50

4/13 5. Find P(Morning | Underclassmen) 8/26

5/12 6. Find P(Afternoon | Upperclassmen) 10/24

The table shows the results of a customer satisfaction survey for a cellular service provider, by location of the customer. In the survey, customers were asked whether they would recommend a plan with the provider to a friend. Write answers as reduced fractions.

	Arlington	Towson	Parkville	
Yes	40	35	41	116
No	18	10	6	34
	58	45	47	150

58/75 7. Find P(Yes) 116/150

20/29 8. Find P (Yes | Arlington) 40/58

NO 9. Are the 2 probabilities the same?

Roberto is the owner of a car dealership. He is assessing the success rates of his top three sales people in order to offer one of them a promotion. Over two months, for each attempted sale, he records whether the sales person made a successful sale or not. The results are shown in the cart below. Write answers as reduced fractions.

	Successful	Unsuccessful	
Becky	6	6	12
Raul	4	5	9
Darrell	6	9	15
	16	20	36

1/2 10. Find P(Successful | Becky) 6/12

3/5 11. Find P(Unsuccessful | Darrell) 9/15

Mrs. Koehler surveyed 430 men and 200 women about their vehicles. Of those surveyed, 160 men and 85 women said they own a blue vehicle. Write answers as reduced fractions.

	Blue	Not Blue	
Men	160	270	430
Women	85	115	200
	245	385	630

16/43 12. If a randomly chosen person is a man, what is the probability of that person having a blue car? 160/430

11/18 13. P(Blue)' 385/630

23/77 14. P(Women | Not Blue) 115/385

3/7 15. P(Men ∩ Not Blue) 270/630