

Name: _____ Date: _____

The Conditional Probability from Tables

The frequencies of the marbles in a bag are shown in the table.

_____ 1. Find $P(\text{small})$

_____ 2. Find $P(\text{green} | \text{large})$

	GREEN	BLUE
LARGE	2	4
SMALL	8	12

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.

		Work less than 5 miles from home?	
		YES	NO
Use new system?	YES	24	32
	NO	44	20

_____ 3. If residents work less than 5 miles from home, what is the probability that they would use the new system?

_____ 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?

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.

	Underclassmen	Upperclassmen
Morning	8	14
Afternoon	18	10

_____ 5. Find $P(\text{Morning} | \text{Underclassmen})$

_____ 6. Find $P(\text{Afternoon} | \text{Upperclassmen})$

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.

	Arlington	Towson	Parkville
Yes	40	35	41
No	18	10	6

_____ 7. Find $P(\text{Yes})$

_____ 8. Find $P(\text{Yes} | \text{Arlington})$

_____ 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.

	Successful	Unsuccessful
Becky	6	6
Raul	4	5
Darrell	6	9

_____ 10. Find $P(\text{Successful} | \text{Becky})$

_____ 11. Find $P(\text{Unsuccessful} | \text{Darrell})$

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.

	Blue	Not Blue
Men		
Women		

_____ 12. If a randomly chosen person is a man, what is the probability of that person having a blue car?

_____ 13. $P(\text{Blue})$

_____ 14. $P(\text{Women} | \text{Not Blue})$

_____ 15. $P(\text{Men} \cap \text{Not Blue})$