Name:	
Date:	Period:

1. Jane is given the following probability problem and her work is displayed. She has done something wrong. What did she do wrong and why is it wrong?

Problem: A bag of marbles has 3 green, 2 blue and 5 red marble. What is the probability of getting a red and then a green marble without replacement?

 $P(R \text{ and } G) = \left(\frac{5}{10}\right) \left(\frac{3}{10}\right) = \frac{15}{100}$

2. A bag of marbles has 15 red and 5 green. Two picks are made from the same bag without replacement. Draw your own tree diagram and label each branch with the probabilities.

3. Given two bags of marbles, bag #1 with 2 green, 3 red and 7 orange, and bag #2 with 5 green, 1 red and 4 orange. Determine the following probabilities.

a) Getting a red from bag #1 andb) Getting a red from bag #2 andc) Getting a green or a red fromthen getting an orange from bag #1then getting an orange from bagbag #2.with replacement.#2 with replacement.

P(R1 and O1) =	P(R2 and O2) =	P(G2 or R2) =		
4. Given a standard deck of cards. Determine the probabilities.				
a) Getting a numerical card less than 5 and then a king with replacement.	b) Getting a 2 and then a 2 with replacement.	c) Getting a spade or a 5.		

P(#<5 and King) = _____

P(2 and 2) = _____

P(spade or 5) = _____

d) Getting a heart or a club.	e) Getting a red 2 followed by a black card without replacement.	f) Getting a face card followed by an second face card with replacement.			
P(heart or club) =	P(red 2 and black) =	P(face card and face card) =			
 5. A Jar of cookies have 12 chocolate chip cookies, 13 peanut butter cookies, and 5 walnut cookies. Beside the jar is a cookie sheet of 20 chocolate chip cookies. Some unique replacement rules exist: if you pick a chocolate chip cookie from the jar you eat it and then replace it with 2 chocolate chip cookies from the cookie sheet. if you pick a peanut butter cookie you eat it if you pick a walnut cookie, you put it back. 					
a) P(CC and then W) =	b) P(CC and CC)) =			
c) P(W and then W) =	d) P(PB and the	n CC) =			

e) Which has a greater chance of happening? P(PB and then a W) or P(W and then a CC)?