Name: Key Period: 2, 6 Date: 3/28/16

Math 7 - Chapter 17 - Pre-Test - Tomorrow's Test covers Ch.16 AND 17, so also study your Ch. 16 Pre-Test

1. In the game of bridge, a player's hand contains 13 cards. Kayla was dealt a hand containing 4 spades, 2 hearts, 3 diamonds, and 4 clubs.

   a. Complete the probability model for picking a card at random from Kayla's hand.

Outcome	Spades	Hearts	Diamonds	Clubs
Probability	$\frac{4}{13}$	$\frac{2}{13}$	$\frac{3}{13}$	$\frac{4}{13}$
	31%	15%	23%	31%

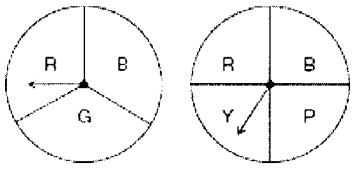
   b. Determine whether this probability model is a uniform or non-uniform probability model. Explain your reasoning.

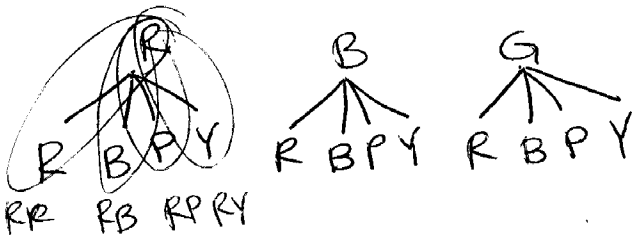
This model is a non-uniform probability model, because the probabilities of choosing each card are unequ

   c. What is the probability that the card that is picked will be a red card? (Hearts and diamonds are the red cards.)

$\frac{2}{13} + \frac{3}{13} = \frac{5}{13} \approx 38\% \approx 0.38$

2. You spin each spinner once. On the spinners, R represents red, B represents blue, G represents green, Y represents yellow, and P represents purple.





   a. Create an organized list of all the possible outcomes. (Use a diagram or table to help you visualize the combinations, as necessary.)

(R,R), (R,B), (R,P), (R,Y)
(B,R), (B,B), (B,P), (B,Y)
(G,R), (G,B), (G,P), (G,Y)

   b. What is the probability that both spinners will land on the same color?

(R,R) or (B,B)

$\frac{2}{12} = \frac{1}{6} \approx 17\%$

   c. What is the probability that the first spinner will land on Red and the second spinner will land on Purple?

~~RR~~ ~~RB~~ (R,P) ~~RY~~

$\frac{1}{12} \approx 8\%$

   d. What is the probability that the first spinner will land on Red or the second spinner will land on Purple?

(R,R), (R,B), (R,P), (R,Y)
(B,P)
(G,P)

$\frac{6}{12} = \frac{1}{2}$ 50%

Name: Key Period: 2, 6 Date: 3/28/16

Math 7 - Chapter 17 - Pre-Test - Tomorrow's Test covers Ch.16 AND 17, so also study your Ch. 16 Pre-Test

1. In the game of bridge, a player's hand contains 13 cards. Kayla was dealt a hand containing 4 spades, 2 hearts, 3 diamonds, and 4 clubs.

   a. Complete the probability model for picking a card at random from Kayla's hand.

Outcome	Spades	Hearts	Diamonds	Clubs
Probability	$\frac{4}{13}$	$\frac{2}{13}$	$\frac{3}{13}$	$\frac{4}{13}$
	31%	15%	23%	31%

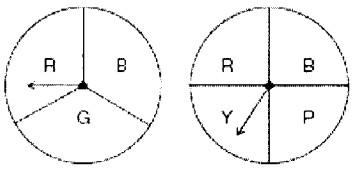
   b. Determine whether this probability model is a uniform or non-uniform probability model. Explain your reasoning.

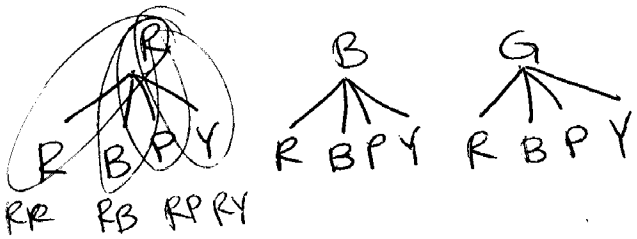
This model is a non-uniform probability model, because the probabilities of choosing each card are unequ

   c. What is the probability that the card that is picked will be a red card? (Hearts and diamonds are the red cards.)

$\frac{2}{13} + \frac{3}{13} = \frac{5}{13} \approx 38\% \approx 0.38$

2. You spin each spinner once. On the spinners, R represents red, B represents blue, G represents green, Y represents yellow, and P represents purple.





   a. Create an organized list of all the possible outcomes. (Use a diagram or table to help you visualize the combinations, as necessary.)

(R,R), (R,B), (R,P), (R,Y)
(B,R), (B,B), (B,P), (B,Y)
(G,R), (G,B), (G,P), (G,Y)

   b. What is the probability that both spinners will land on the same color?

(R,R) or (B,B)

$\frac{2}{12} = \frac{1}{6} \approx 17\%$

   c. What is the probability that the first spinner will land on Red and the second spinner will land on Purple?

~~RR~~ ~~RB~~ (R,P) ~~RY~~

$\frac{1}{12} \approx 8\%$

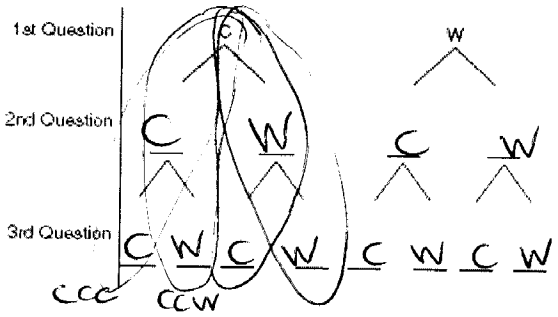
   d. What is the probability that the first spinner will land on Red or the second spinner will land on Purple?

(R,R) (R,B) (R,P) (R,Y)
(B,P)
(G,P)

$\frac{6}{12} = \frac{1}{2}$ 50%

3. Jonathan took a 3-question true-false quiz and guessed the answer to each question.

a. Complete the tree diagram. C represents a correct answer and W represents a wrong answer.



b. List all of the possible outcomes.

CCC, CCW, CWC, CWW, WCC, WCW, WWC, WWW

c. In order to figure out how well he should expect to do on the quiz, Jonathan decided to construct a probability model for answering 0, 1, 2, and 3 questions correctly. Complete the probability model.

Number of Questions Answered Correctly	0	1	2	3
Probability	1/8	3/8	3/8	1/8
	WWW	WWC WCW CWW	WCC CWC CCW	CCC

d. What is the probability of guessing at least 2 answers correctly?

3/8 + 1/8 = 4/8 = 1/2 = 50%

e. What is the complementary event for "guessing all three questions correctly"? Calculate the probability of the complementary event in two different ways.

Method 1

Guessing 0, 1, or 2 questions correctly is the complement to guessing all 3 questions correctly.

Total P − P(guessing all 3)

8/8 − 1/8 = 7/8 = 0.875 ≈ 88% chance to not guess all 3 correct

Method 2

P(guessing 0) + P(guessing 1) + P(guessing 2)

1/8 + 3/8 + 3/8 = 7/8 ≈ 88%.