Look up Gamblers Fallacy tonight

Have an example of it please

Look this up on your chromebook And come up with some examples And be able to describe it.

Name_____

Date_____

Advanced Algebra

Unit 7 Probability- Review #1 for Probability Test

Highest level of Education	Women	Men	Total
8th grade or less	35	46	81
High School Graduate	232	305	537
Some College	419	374	793
Bachelor's Degree	539	463	1002
Graduate or professional Degree	377	382	759
Total	1602	1570	3172

a) What is the probability that a randomly chosen person from the survey group is a woman?

$\frac{1602}{3172} \approx .505$

b) What is the probability that the highest level of education completed by a randomly chosen person from the survey group is a graduate or professional degree?

$\frac{759}{3172} \approx .239$

c) What is the probability that a randomly chosen woman has an 8th grade or less education?

$\frac{35}{1602} \approx .0218$

d) What is the probability that a randomly chosen person whose highest level of education is a high school man?

$\frac{305}{537} \approx .5679702$

2) Suppose that a bag contains five green marbles, three blue marbles, six yellow marbles, and four white marbles. Maria shakes up the bag to mix the marbles and then draws one marble out of the bag.

a) What is the probability that the marble Maria draws is blue? $\frac{3}{18} \approx .167$

b) What is the probability that the marble is white? $\frac{4}{18} = .22$

c) What is the probability that the marble is green or yellow? $\frac{11}{18} \approx .611$

d) What is the probability that the marble is neither blue nor yellow?

$5+4 \qquad \frac{9}{18} = .5$

3) Find each probability.

a) If a meteorologist says that there is a 35% chance of snow tomorrow, what is the probability that it will not snow?

1-.35 .65

b) If you roll a die once, what is the probability that you will roll greater than a 2?

$\frac{4}{6} \approx .67$

4) Make a list of the outcomes for 2 dice below.

1-1	2-1	3-1	4-1	5-1	6-1
1-2	2-2	3-2	4-2	5-2	6-2
1-3	2-3	3-3	4-3	5-3	6-3
1-4	2-4	3-4	4-4	5-4	6-4
1-5	2-5	3-5	4-5	5-5	6-5
1-6	2-6	3-6	4-6	5-6	6-6

36

5) Use your list to determine the following probabilities:

P(sum=7) $\frac{6}{36}$

P(sum>9) $\frac{6}{36}$

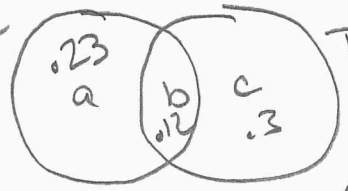
P(sum of 5 and product is odd) $\frac{0}{36}$

P(sum of 8 | first roll is odd)

$\frac{2}{18}$

6) The probability that you will see a Lion on safari is .35. The probability that you will see a tiger on safari is .42. Unfortunately (they will not advertise this, but if you ask former clients) the probability that you will see neither is .35. **Draw the Venn Diagram to represent this and list the 6 probabilities**.

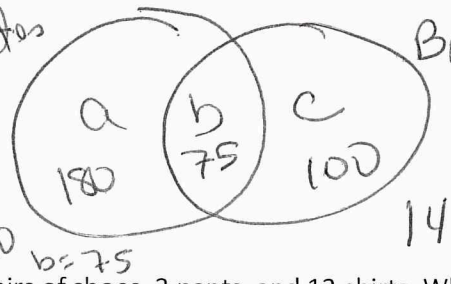
$P(A) = .35$
$P(B) .42$
$P(A \cap B) = .12$
$P(A \cup B) = .65$



$P(A/B) = \frac{.12}{.42} = .286$
$a + b = .35$
$b + c = .42$
$P(B/A) = \frac{.12}{.35} = .343$
$a + b + c = .65$
.35

$a = .23$
$b = .12$
$c = .3$

7) Out of 500 freshman, 355 are athletes or involved in Band. There are 255 involved in athletics. There are 175 involved in band. What is the probability that a randomly selected freshman is both athletics and band?



$a + b = 255$
$b + c = 175$
$a + b + c = 355$
$a = 180$ $b = 75$
145

$\frac{75}{500} = .15$

$500 - 355 = 145$

8) You have 6 pairs of shoes, 3 pants, and 12 shirts. What is the total possible number of outfits that you can put together?

$6 \times 3 \times 12$ 216

★ Know this Basic counting principle Problem

9) You are going on a trip and you are bringing 3 books. You have a collection of 15 books. How many different combinations can you bring?

$_{15}C_3$ $\frac{15!}{12!3!}$ $\frac{15\ 14\ 13}{6}$ 455

10) Evaluate the following:

$_{12}P_9$ 7,983,600	$_{14}C_9$ 2002	$\frac{6 * 12P2 * 14P2}{26P4}$ $\frac{6 \cdot 132 \cdot 182}{358,800} = .4017$