GSE Geometry | Unit 6 – Probability | EOC Review

Name: _____ Block: _____

Vocabulary: Independent events, dependent events, conditional probability, Addition Rule, Multiplication Rule for Independent Events, outcome, overlapping events, union, intersection

Employment Survey Results

Employment Status	Age (in Years) Less than 18	18 or greater	Total
Has Job	20	587	607
Does Not Have Job	245	92	337
Total	265	679	944

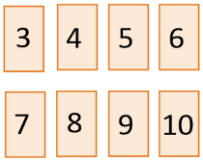
1) Find the probability that a randomly selected person will have a job, given they are older than 18. P(job | older than 18).

2) What is the probability that person has a job?

3) Find the P(Does not have a job and is less than 18)

4) Find the probability that a randomly selected person has no job, given they are older than 18?

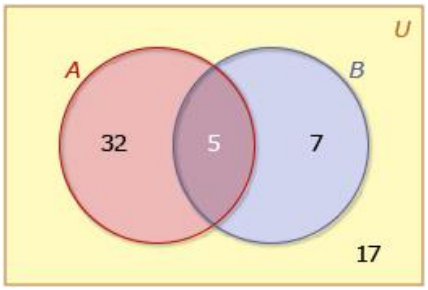
5) Martin has 8 cards. What is the probability (as a percentage) of getting an even number or a 10?



Mutually exclusive or overlapping

6) You spin a spinner. What is the probability of spinning a 4 or landing on an odd number?

Mutually exclusive or overlapping



7) Find P(A)=

8) Find P(B)=

9) Find P(B)'=

10) Find P(A ∪ B)=

11) Find P(A ∩ B)=

12) Find $P(\overline{A \cap B})$=

13) You are guessing at two questions on a multiple-choice test. Each question has 4 answer choices. What is the probability you guess both questions correct?

Independent or dependent

14. There is 1 red goldish and 4 yellow goldfish. You randomly choose two goldfish without replacement. What is the probability that the first fish is red and the second is gold?

Independent or dependent

15) Are the events independent?

$P(A) = \frac{3}{10}$; $P(B) = \frac{3}{20}$; $P(A \cap B) = \frac{9}{200}$

Independent or dependent

16) Are the events independent?

$P(A) = 0.08$; $P(B) = 0.4$; $P(A \cap B) = 0.12$

Independent or dependent

	Answers
1) For which set of proabilities would event A and B be independent? A. $P(A)\ 0.25, P(B) = 0.25;\ P(A\ and\ B) = 0.50$ B. $P(A) 0.08, P(B) = 0.40;\ P(A\ and\ B) = 0.12$ C. $P(A) 0.16, P(B) = 0.24;\ P(A\ and\ B) = 0.32$ D. $P(A)\ 0.10, P(B) = 0.30;\ P(A\ and\ B) = 0.03$	1) _____
2) What is the probability that a randomly chosen person has blonde hair, given that the person selected is male? **Hair Color** A. 0.51 B. 0.55 C. 0.58 D. 0.63	2) _____
3) When rolling a fair, six-sided number cube, what is the probability of rolling an even number or a number less than 3? A. $\frac{5}{6}$ B. $\frac{2}{3}$ C. $\frac{1}{2}$ D. $\frac{1}{3}$	3) _____
4) Each letter of the alphabet is written on separate cards in red ink. The cards are placed in a container. Each letter of the alphbet is also written on separate cards in black ink. The cards are placed in the same container. What is the probability that a card radomly selected from the container has a letter written in black ink or the letter is A or Z? A. $\frac{1}{2}$ B. $\frac{7}{13}$ C. $\frac{15}{26}$ D. $\frac{8}{13}$	4) _____

	Brown	Blonde	Red	Total
Male	548	876	82	1,506
Female	612	716	66	1,394
Total	1,160	1,592	148	2,900

5) Ms. Klein surveyed 240 men and 285 women about their vehicles. Of those surveyed, 155 men and 70 women said they own a red vehicle. If a person is chosen at random from those surveyed, what is the probability of choosing a woman or a person who does NOT own a red vehicle?

5) _____

A. $\frac{14}{57}$
B. $\frac{71}{105}$
C. $\frac{74}{105}$
D. $\frac{88}{105}$

6) Bianca spins two spinners that have four equal sections numbered 1 through 4. If she spins a 4 on at least one spin, what is the probability that the sum of her two spins is an odd number?

6) _____

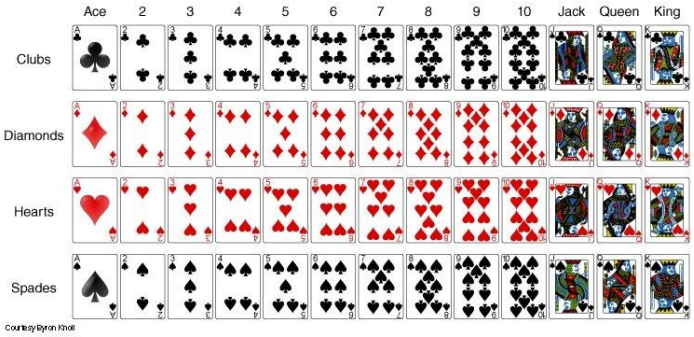
A. $\frac{1}{4}$
B. $\frac{7}{16}$
C. $\frac{4}{7}$
D. $\frac{11}{16}$

7) Assume that the following events are independent:

The probability that a high school senior will go to college is 0.72.
The probability that a high school senior will go to college and live on campus is 0.46

What is the probability that a high school senior will live on campus, given that the person will go to college?

7) _____

A. 0.26
B. 0.33
C. 0.57
D. 0.64

8) A student draws a card from a standard deck and then draws another card without replacing the first card. Explain why the probability of picking an ace on the frist draw and the probability of picking a 7 on the second draw are NOT independent events.