Name \_\_\_\_\_ School \_\_\_\_\_

			Basketball Fan	Not a Fan		
		Man	36	16		
		Woman	24	24		
1)	What is the probability th	at a person select	ted was a woman and	a basketball fan?	,	
	A) 16% E	3) 24%	C) 25%	D) 36%	é E)	50%
2)	What is the probability th	at a person select	ted was a man?			
	A) 40% E	3) 48%	C) 50%	D) 529	% E)	60%
3)	What is the probability th	at a person select	ted was either a man	or not a basketbal	l fan?	
	A) 88% E	3) 84%	C) 80%	D) 769	% E)	72%
4)	What is the probability th	at a person select	ted was a man, given	that the person se	elected was a basket	ball fan?
	A) 60% E	<b>B</b> ) 69%	C) 50%	D) 559	% E)	52%

For questions 1-4: 100 people were surveyed and asked whether or not they were a basketball fan. Here are the results:

## For questions 5-8: Three fair six-sided dice are rolled.

5)	) What is the probability that the sum of the numbers on the three dice is 3?				
	A) 1/216	B) 1/72	C) 1/36	D) 1/108	E) 1/6
6)	What is the probability	that all three dice show	the same number?		
	A) 1/216	B) 1/72	C) 1/36	D) 1/108	E) 1/6
7)	What is the probability	that all three dice show	different numbers?		
	A) 4/9	B) 2/9	C) 1/36	D) 2/3	E) 5/9
8)	What is the probability	that the sum of the num	bers on the three dice is	4?	
	A) 1/216	B) 1/72	C) 1/36	D) 1/108	E) 1/6

<u>For questions 9-12</u>: Your favorite restaurant offers a \$20 meal deal, where both you and a friend share one appetizer (there are six to choose from), you each choose an entrée (there are five to choose from), and you each choose a desert (there are three to choose from). You and your friend are allowed to choose the same entrée, and are also allowed to choose the same desert.

9) How many different combinations of entrees are there? A) 20 B) 25 C) 30 D) 35 E) 10 10) How many different \$20 meal deals are there? A) 90 B) 450 C) 225 D) 1350 E) 25 11) What is the probability that you and your friend choose the same entrée, but don't choose the same desert? A) 1/15 B) 2/15 C) 4/15 D) 7/15 E) 8/15

12) What is the probability that you and your friend choose neither same entrée nor the same desert?

A) 1/15 B) 2/15 C) 4/15 D) 7/15 E) 8/15

For questions 13 – 16: A jar contains 4 blue marbles, 3 red marbles, 2 yellow marbles and 1 green marble.

- 13) What is the probability that a marble selected a random is <u>not</u> blue?
  - A) 2/5 B) 3/5 C) 3/10 D) 7/10 E) 1/10

14) What is the probability that 2 red marbles are selected (without replacement)?

A) 9/100	B) 2/25	C) 1/10	D) 1/15	E) 1/20
15) What is the probab	ility that you draw 4 m	arbles (without replace	ement) and <u>none</u> of them	are green?
A) 6561/10000	<b>B</b> ) 1/10000	C) 1/2	D) 3/5	E) 2/5

16) What is the probability you draw 3 marbles (assume replacement) and at most 2 are blue?

A	) 93.6% B	B) 80% C	) 98.4%	D) 96.8%	E) 95.2%

For questions 17 - 20: John is a 75% free throw shooter. Bill is a 60% free throw shooter. Willie is a 90% free throw shooter. [Treat each free throw as an independent event.]

17) What is the probability that John makes at least 1 out of 2 free throws?					
75%	C) 93.75%	D) 95%	E) 96.75%		
, find the probability t	that he makes at least 2.				
21.76%	C) 88.12%	D) 82.08%	E) 17.92%		
fillie misses two conse	ecutive free throws.				
2%	C) 3%	D) 4%	E) 5%		
20) If Willie shoots 8 free throws, find the probability that he makes exactly 7.					
75%	C) 38.3%	D) 4.8%	E) 51.6%		
	75% ( , find the probability f 21.76% ( illie misses two conse 2% ( ws, find the probability	<ul> <li>C) 93.75%</li> <li>find the probability that he makes at least 2.</li> <li>21.76%</li> <li>C) 88.12%</li> <li>illie misses two consecutive free throws.</li> <li>C) 3%</li> <li>ws, find the probability that he makes exactly</li> </ul>	75%       C) 93.75%       D) 95%         . find the probability that he makes at least 2.       21.76%       D) 82.08%         21.76%       C) 88.12%       D) 82.08%         illie misses two consecutive free throws.       2%       C) 3%       D) 4%         ws, find the probability that he makes exactly 7.		

## For questions 21 - 24: Consider the data set $\{2, 6, 7, 8, 11, 14\}$ .

21) Find the median.					
A) 7	B) 7.5	C) 8	D) 8.5	E) 11.5	
22) Find the mean.					
A) 7	B) 7.5	C) 8	D) 8.5	E) 11.5	
23) Find the standard dev	viation.				
A) 4.10	B) 4.15	C) 4.20	D) 4.22	E) 4.23	
24) Find the interquartile range.					
A) 5	B) 7	C) 7.5	D) 8	E) 12	

normally	•	= 74.2 and standard dev		Conege ingeoir course.			
25)	If a person is selected a	at random, what is the pr	obability that their grade	is greater than or equal t	to 94.4?		
	A) 3%	B) 4%	C) 5%	D) 6%	E) 7%		
26)	What percent of the po	pulation has grades betw	veen 64.1 and 84.3?				
	A) 64%	B) 68%	C) 50%	D) 60%	E) 55%		
27)	What is corresponding	z-score for a grade of 99	?				
	A) 2.16	B) 2.26	C) 2.36	D) 2.46	E) 2.56		
28)	What percent of the pop	pulation has a grade betw	veen 64.1 and 94.4?				
	A) 64%	B) 68%	C) 74%	D) 78%	E) 82%		
29)	What percent of the pop	pulation had a grade grea	ter than 90?				
	A) 1%	B) 3%	C) 5%	D) 7%	E) 9%		
30)	What percent of the pop	pulation had a grade betw	veen 80 and 90?				
	A) 14%	B) 16%	C) 18%	D) 20%	E) 22%		
31)	31) What percent of the population had a grade between 70 and 80?						
	A) 38%	B) 41%	C) 44%	D) 47%	E) 50%		
32)	32) What percent of the population had a grade lower than 60?						
	A) 2%	B) 4%	C) 6%	D) 8%	E) 10%		

For questions 25 - 32: A study is conducted to determine the average grade in a College Algebra course. The data is

For questions 33 - 34: 100 students are surveyed and asked if they participate in activities and/or athletics. 78 students responded that they participate in activities, and 46 students responded that they participate in athletics. There are 12 students who participate in neither activities nor athletics.

33) How many students participate in both activities and athletics?

A) 10 B) 24 C) 36 D) 42 E) 52

34) How many students participate in either activities or athletics, but not both?

A) 10 B) 24 C) 36 D) 42 E) 52

For questions 35 - 38: For a high school biology class, George wants to determine the relationship between a person's height (inches) and shoe size. He collects the following data:

Height (x)	61	63	68	72	76	81
Shoe Size (y)	6	7	9	11	13	17

35) Describe the correlation between the two variables.

A) Positive, Strong Correlation	B) Positive, Weak Correlation	C) No Correlation

D) Negative, Weak Correlation E) Negative, Strong Correlation

36) Find the linear regression equation.

A) y = .641x - 19.657B) y = .382x - 28.712C) y = .527x - 26.507D) y = .733x - 21.863E) y = .489x - 23.986

37) Use the linear regression equation to predict the shoe size of an 80 inch person. Round to the nearest integer.

A) 13 B) 14 C) 15 D) 16 E) 17

38) Use the linear regression equation to predict the height of someone with a size 8.5 shoe. Round to the nearest tenth.

A) 66.2 inches	B) 66.4 inches	C) 66.6 inches	D) 66.8 inches	E) 67.0 inches

39) Find the probability that a random selected three-digit number has three distinct digits.

A) 72%	B) 80.8%	C) 90%	D) 81%	E) 64.8%				
40) In how ma	40) In how many ways can 5 objects be arranged on a circular display?							
A) 12	B) 15	C) 24	D) 48	E) 120				
41) How many different ways are there to arrange the letters KANSAS?								
A) 120	B) 720	C) 60	D) 360	E) 180				

42) How many different ways are there to select a committee of 3 people from 7 candidates?

A) 210 B) 18 C) 35 D) 54 E) 5040