Math 10120 Finite Math. F20

~~Final Exam~~

~~May 7, 2020~~ Practice Final 3

Name: _____

- Please return this exam to me by midnight tonight. You only have to return this page (with your answers), but if you want to send all of the pages, I will accept them. Scanning is preferable to photos (especially if you send more than this front page), but photos will be accepted.
- The Honor Code is in effect for this examination. You may use your class notes and you may use the textbook for the class. No other consultation is allowed. Good Luck!

Solutions are on the last page

Honor Pledge: _____

PLEASE MARK YOUR ANSWERS WITH AN X, not a circle!										
1.	(a)	(b)	(c)	(d)	(e)	19.	(a)	(b)	(c)	(d)	(e)
2.	(a)	(b)	(c)	(d)	(e)	20.	(a)	(b)	(c)	(d)	(e)
3.	(a)	(b)	(c)	(d)	(e)	21.	(a)	(b)	(c)	(d)	(e)
4.	(a)	(b)	(c)	(d)	(e)	22.	(a)	(b)	(c)	(d)	(e)
5.	(a)	(b)	(c)	(d)	(e)	23.	(a)	(b)	(c)	(d)	(e)
6.	(a)	(b)	(c)	(d)	(e)	24.	(a)	(b)	(c)	(d)	(e)
7.	(a)	(b)	(c)	(d)	(e)	25.	(a)	(b)	(c)	(d)	(e)
8.	(a)	(b)	(c)	(d)	(e)	26.	(a)	(b)	(c)	(d)	(e)
9.	(a)	(b)	(c)	(d)	(e)	27.	(a)	(b)	(c)	(d)	(e)
10.	(a)	(b)	(c)	(d)	(e)	28.	(a)	(b)	(c)	(d)	(e)
11.	(a)	(b)	(c)	(d)	(e)	29.	(a)	(b)	(c)	(d)	(e)
12.	(a)	(b)	(c)	(d)	(e)	30.	(a)	(b)	(c)	(d)	(e)
13.	(a)	(b)	(c)	(d)	(e)						
14.	(a)	(b)	(c)	(d)	(e)						
15.	(a)	(b)	(c)	(d)	(e)						
16.	(a)	(b)	(c)	(d)	(e)						
17.	(a)	(b)	(c)	(d)	(e)						
18.	(a)	(b)	(c)	(d)	(e)						

Multiple Choice

1. (5 pts.) Which of the following corresponds to the shaded area in the Venn diagram below? (Recall that the notation $(\ )'$ refers to the complement of the set $(\ )$.)
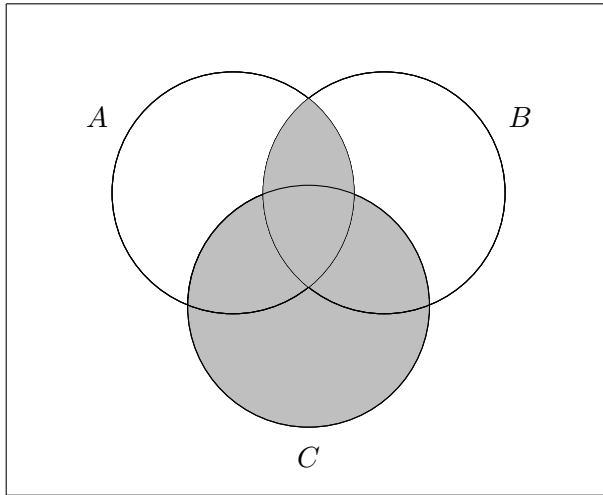
(a) $(A \cap B)' \cap C$

(b) $(A \cup B)' \cup C$

(c) $(A \cap B) \cap C$

(d) $(A \cap B) \cup C$

(e) $A' \cap B' \cap C$

2. (5 pts.) Claire has a collection of 10 (different) gold coins. Late one night Emily sneaks into her room and steals some (nonempty) subset of those coins, but not all of them: the next morning Claire realized that she still had at least two coins left. How many possible subsets of her 10 coins could Emily have stolen? [Hint: don't forget that **at least one coin was stolen**!!]

(a) $2^{10} - 12$

(b) $2^{10} - 11$

(c) 2^{10}

(d) $2^8 - 10$

(e) 2^8

3. (5 pts.) A certain club has 39 members. All of them are taking either Algebra, Biology or Chemistry, or some combination of these subjects. A pollster determines the following facts.

    (a) 2 are taking all three subjects.
    (b) 6 are taking Algebra and Biology (including the two in (a)).
    (c) 8 are taking Biology and Chemistry (including the two in (a)).
    (d) A total of 12 are taking Algebra but **not** Chemistry.
    (e) A total of 16 are taking Chemistry but **not** Algebra.
    (f) 21 are taking Biology (and possibly other subjects).

How many members are taking Algebra and Chemistry?

(a)   0   (b)   1   (c)   2   (d)   3   (e)   4

4. (5 pts.) Mom and Dad have twin girls and twin boys (for a total of four children). They hire a photographer to take a picture of the six family members. The only condition is that the twin girls have to stand next to each other and the twin boys have to stand next to each other. In how many ways can they line up for the photo?

(a)   4!   (b) $4! \cdot 2^2$ (c) $4! \cdot 2$ (d)   6!   (e) $\dfrac{6!}{2^2}$

5. (5 pts.) The password for my security system consists of two letters followed by 4 digits, which I have to change every week. To help me remember what the current password is, I choose the two letters from the letters M,A,T,H (without repeating, but order is important) and I choose the four digits from 1,2,3,4,5,6 (without repeating, and order is important). How many passwords are possible?

(a)   8,640   (b)   17,280   (c)   4,320   (d)   90   (e)   180

6. (5 pts.) Alberto has to drive 9 blocks from his office (marked O) to his home (marked H), which he does driving only east (rightward) and south (downward). An app informs him that there is a pileup at the intersection (marked I) of Palma and O'Leary. How many routes are there, going only east and south, from O to H that **avoid** I?
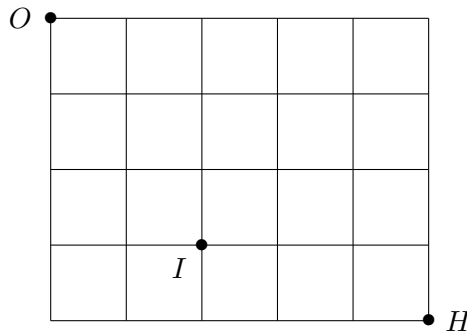
(a)   112   (b)   126   (c)   117   (d)   106   (e)   86

7. (5 pts.) Three cards are chosen from a standard deck (see page 17). How many such choices contain **at least one** spade? [Note that order is not important.]

(a) $1 - C(39, 3)$ (b) $C(39, 3)$ (c) $C(52, 3) - C(39, 3)$

(d) $C(13, 3)^3$ (e) $C(13, 1)^3$

8. (5 pts.) In how many (distinct) ways can the letters of FETTUCCINE be permuted? [Hint: don't overlook the E's.]

(a)   604,800   (b)   453,600   (c)   3,628,800

(d)   40,320   (e)   5,040

9. (5 pts.) Groucho went on a game show and was presented with the following situation. In order to win a new car, he was shown a bag containing 9 green balls and one red ball (so 10 balls total). He was blindfolded and told to choose three balls at the same time. If the red ball was one of the three he chose, he would win the car. If not, he would not win the car. What is the probability that he wins the car?

(a) $\dfrac{3}{10}$ (b) $\dfrac{7}{10}$ (c) $\dfrac{1}{10}$ (d) $\dfrac{1}{2}$ (e) $\dfrac{1}{5}$

10. (5 pts.) In the country of Freedonia, a poll was taken of 500 randomly selected men and 500 randomly selected women about their favorite food. The following was the result:

Food	Frequency of men	Frequency of women
pasta	450	200
broccoli	30	250
fish	20	50
	500	500

If a person is chosen at random (regardless of gender), what is the probability that that person prefers fish?

(a) $\dfrac{1}{250}$ (b) $\dfrac{1}{25}$ (c) $\dfrac{1}{1}$ (d) $\dfrac{7}{50}$ (e) $\dfrac{7}{100}$

11. (5 pts.) Suppose that A and B are (not necessarily independent) events with the following probabilities:
$$P(A) = 0.4, \quad P(B) = 0.5, \quad P(A|B) = 0.3.$$
Find $P(A \cup B)$. [Note I'm asking for $P(A \cup B)$, not $P(A \cap B)$.]

(a)   0.20   (b)   0.80   (c)   0.75   (d)   0.15   (e)   0.70

12. (5 pts.) Ralph and Ed play the following game, which has two steps. First, they roll a die which has two green faces (G) and four blue faces (B). If the color is green, they roll a standard die. If the standard die comes up 1, Ralph wins. If it comes up 2 or 3, Ed wins. If it comes up 4, 5 or 6, it's a tie. If the color of the first die is blue, they flip a coin twice. If both flips give heads, Ed wins. In any other situation, Ralph wins. The following tree diagram should help, but you have to fill in a few probabilities.
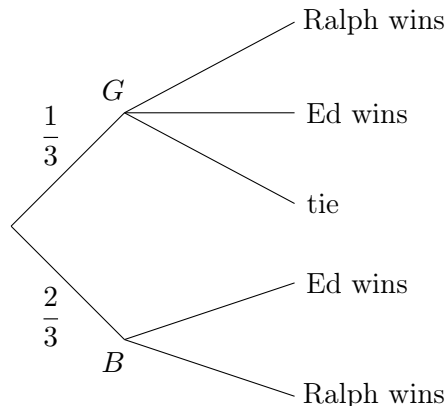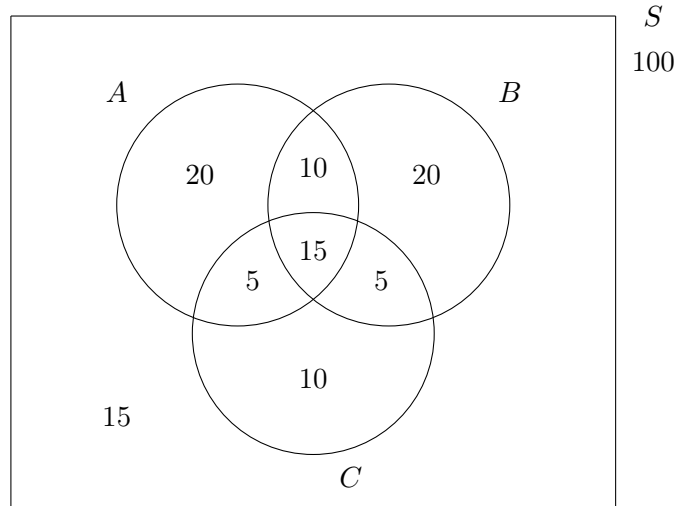

What is the probability that Ed wins?

(a) $\dfrac{4}{9}$ (b) $\dfrac{1}{2}$ (c) $\dfrac{7}{12}$ (d) $\dfrac{5}{18}$ (e) $\dfrac{3}{4}$

13. (5 pts.) Consider the following Venn diagram depicting subsets A, B and C of a sample space S. (The numbers refer to the number of elements in the sets.)

S
100

A
B
20   10   20
15
5   5
10
15
C

Find $P(A|B) \cdot P(B|C) \cdot P(C|A)$.

(a) $\dfrac{8}{175}$ (b) $\dfrac{4}{35}$ (c) $\dfrac{1}{350}$ (d) $\dfrac{7}{20}$ (e) $\dfrac{1}{5}$

14. (5 pts.) In a certain group of people, 40% are male and 60% are female. Of the males, 50% have brown eyes. Of the females, 30% have brown eyes. A person is chosen at random and found to have brown eyes. What is the probability that this person is male?

(a) $\dfrac{2}{5}$ (b) $\dfrac{1}{2}$ (c) $\dfrac{1}{5}$ (d) $\dfrac{10}{19}$ (e) $\dfrac{19}{50}$

15. (5 pts.) Mom and Dad have triplets, Moe, Larry and Curly. Moe always tells the truth, Larry always lies and Curly tells the truth $\frac{1}{4}$ of the time. One day, Dad chooses one of the three at random (since he can't tell them apart) and asks a question, getting a true answer. What is the probability that it was Moe that he had been talking to?

(a) 1   (b) $\frac{1}{3}$ (c) $\frac{2}{3}$ (d) $\frac{1}{2}$ (e) $\frac{4}{5}$

16. (5 pts.) Let E and F be **independent** events and assume that $P(E) = \frac{1}{3}$ and $P(F) = \frac{1}{4}$. Find $P(E \cup F)$. [Note that you're looking for the probability of the union, not the intersection.]

(a) $\frac{1}{2}$ (b) $\frac{1}{12}$ (c) $\frac{7}{12}$ (d) $\frac{2}{3}$ (e) $\frac{3}{4}$

17. (5 pts.) A certain club has 100 members, of which 40 are English majors and 25 are Finance majors (this includes some double majors). If it is known that being an English major and being a Finance major are **independent events**, how many are **neither English majors nor Finance majors**? [Hint: a Venn diagram might be helpful.]

(a)   10   (b)   20   (c)   45   (d)   35   (e)   55

18. (5 pts.) Whenever uncle Ronnie came to visit, he would give Michelle some amount of money, which she immediately deposited in her bank account. Many years later, looking over her bank records, she summarized his gifts with the following relative frequency distribution:

amount (dollars)	relative frequency
100	1/2
200	1/4
300	1/8
400	1/16
500	1/16

What was his average gift?

(a) $300.00   (b) $214.25   (c) $193.75

(d) $324.00   (e) $245.75

19. (5 pts.) Math 12345 has exactly 100 students. On the most recent exam, the scores were as follows:

Score	Frequency
75	20
80	30
85	0
90	40
95	0
100	10
	100

Find the population variance σ^2. [Hint: To save you a little time, I'll tell you that the mean is $\mu = 85$.]

(a) 65   (b) 60   (c) 70   (d) 75   (e) 80

20. (5 pts.) Consider an experiment where two fair 6-sided dice are rolled. The following ordered pairs correspond to the possible results:

$$
\begin{array}{cccccc}
(1,1) & (1,2) & (1,3) & (1,4) & (1,5) & (1,6) \\
(2,1) & (2,2) & (2,3) & (2,4) & (2,5) & (2,6) \\
(3,1) & (3,2) & (3,3) & (3,4) & (3,5) & (3,6) \\
(4,1) & (4,2) & (4,3) & (4,4) & (4,5) & (4,6) \\
(5,1) & (5,2) & (5,3) & (5,4) & (5,5) & (5,6) \\
(6,1) & (6,2) & (6,3) & (6,4) & (6,5) & (6,6)
\end{array}
$$

Let X be the difference between the larger and the smaller of the numbers. (E.g. for (1,4), $X = 4 - 1 = 3$.) Find $P(1 \le X \le 3)$.

(a) $\dfrac{1}{3}$ (b) $\dfrac{4}{9}$ (c) $\dfrac{1}{6}$ (d) $\dfrac{2}{3}$ (e) $\dfrac{5}{18}$

21. (5 pts.) Methuselah and Jared have a fair coin on which one side says "1" and the other says "2." They also have a fair die on which three sides say "1," two sides say "2," and one side says "3." They flip the coin, note the result, then roll the die and note the result. Let X be the random variable corresponding to the sum of these two results. Find the probability distribution of X.

(a)

X	$P(X)$
2	1/6
3	1/3
4	1/3
5	1/6

(b)

X	$P(X)$
2	1/4
3	5/12
4	1/4
5	1/12

(c)

X	$P(X)$
2	1/4
3	1/4
4	1/4
5	1/4

(d)

X	$P(X)$
2	1/6
3	5/12
4	3/12
5	1/6

(e)

X	$P(X)$
2	1/4
3	1/3
4	1/3
5	1/12

22. (5 pts.) A fair die is rolled 12 times. What is the probability that a 4 appears exactly twice?

(a)   29.6%

(b)   16.7%

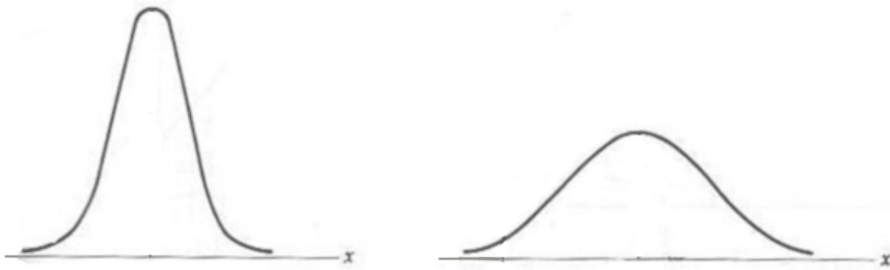(c)   21.3%

(d)   24.8%

(e)   32.6%

23. (5 pts.) Suppose you have a normal distribution (like the one on the left) and you want to "flatten the curve" to get a normal distribution looking more like the one on the right. What will accomplish this?

(a)   increasing σ (b)   decreasing σ (c)   increasing μ

(d)   decreasing μ (e)   hitting it with a hammer

24. (5 pts.)
   Suppose that the area under the standard normal curve from $-a$ to a is 0.8 (i.e. $P(-a \leq Z \leq a) = 0.8$). Estimate a using the table at the back of this exam.

(a)   0.2881   (b)   0.4452   (c)   2.56

(d)   0.64   (e)   1.28

25. (5 pts.) The IQs of people in Freedonia are normally distributed, with mean $\mu = 120$ pounds and standard deviation $\sigma = 10$ points. Let X be the random variable measuring the IQ of a randomly chosen Freedonian. Find $P(105 \leq X \leq 122)$.

(a)   0.3539   (b)   0.2708   (c)   0.5125

(d)   0.1122   (e)   0.4878

26. (5 pts.) William Tell has been practicing shooting an arrow into an apple sitting on top of the head of a straw dummy. He hits the apple exactly 40% of the time. Each practice session he takes 500 shots. Let X be the number of times he hits the apple. Use the **normal approximation to the binomial distribution** to estimate the probability that he hits the apple **at least** 210 times out of the 500 attempts. [Note: the formulas

$$\begin{aligned} \mu &= np \\ \sigma &= \sqrt{npq} \end{aligned}$$

may be useful in this problem.]

(a)   18.14%   (b)   30.79%   (c)   31.86%

(d)   19.21%   (e)   16.85%

27. (5 pts.) Consider the system of inequalities

$$
\begin{array}{rrrcr}
-x & + & y & \leq & 2 \\
4x & + & y & \geq & 12 \\
& & x & \geq & 0 \\
& & y & \geq & 3
\end{array}
$$

Which of the following points is **not** in the feasible set? [You don't have to draw the feasible set.]

(a) $(2, 4)$ (b) $(2, 3)$ (c) $(100, 15)$

(d) $(2.5, 3)$ (e) $(5, 4)$

28. (5 pts.) Tony decides to buy some new books. He wants to buy some fantasy books and some history books. He knows that each fantasy book costs $8 and each history book costs $11. To keep some balance, he decides that the number of history books should not be more than double the number of fantasy books. He is also informed by his wife, Joan, that he had better not spend more than $400 total. Each fantasy book takes him 3 hours to read and each history book takes him 4 hours to read, and he wants to read all of the books in one week (168 hours), even if it means no sleep or work. If x is the number of fantasy books he buys and y is the number of history books he buys, what system of linear inequalities describes this situation?

(a)
$$
\begin{array}{rcr}
y & \leq & 2x \\
8x + 11y & \leq & 400 \\
3x + 4y & \leq & 168 \\
x \geq 0, & & y \geq 0
\end{array}
$$

(b)
$$
\begin{array}{rcr}
y & \geq & 2x \\
8x + 11y & \leq & 400 \\
3x + 4y & \leq & 168 \\
x \geq 0, & & y \geq 0
\end{array}
$$

(c)
$$
\begin{array}{rcr}
y & \leq & 2x \\
8x + 11y & \geq & 400 \\
3x + 4y & \geq & 168 \\
x \geq 0, & & y \geq 0
\end{array}
$$

(d)
$$
\begin{array}{rcr}
y & \geq & 2x \\
8x + 11y & \geq & 400 \\
3x + 4y & \geq & 168 \\
x \geq 0, & & y \geq 0
\end{array}
$$

(e)
$$
\begin{array}{rcr}
y & \leq & 2x \\
8x + 11y & \leq & 400 \\
7x + 7y & \leq & 168 \\
x \geq 0, & & y \geq 0
\end{array}
$$

29. (5 pts.) Find the **minimum value** of $z = x + 3y$ subject to the constraints

$$\begin{aligned} x + y &\geq 4 \\ -x + y &\leq 2 \\ x &\leq 5 \\ y &\geq 0 \end{aligned}$$

(a) 6   (b) 5   (c) 0   (d) 4   (e) 10

30. (5 pts.) Evaluate the following expression:

$$\left(\begin{bmatrix} 0 & 1 \\ 2 & 3 \end{bmatrix} \cdot \begin{bmatrix} -1 \\ 2 \end{bmatrix} \right) + \begin{bmatrix} 3 \\ 4 \end{bmatrix}$$

(a) $\begin{bmatrix} 7 \\ 9 \end{bmatrix}$ (b) $\begin{bmatrix} 8 \\ 8 \end{bmatrix}$ (c) $\begin{bmatrix} 6 \\ 22 \end{bmatrix}$ (d) $\begin{bmatrix} 8 \\ 18 \end{bmatrix}$ (e) $\begin{bmatrix} 5 \\ 8 \end{bmatrix}$

Standard Deck.

Each card has a rank and a suit. There are 13 possible ranks $(A, 2, 3, 4, 5, 6, 7, 8, 9, 10, J, Q, K)$ and 4 possible suits (Clubs, Diamonds, Hearts and Spades). There are 4 cards of each rank (e.g. 9 of Clubs, 9 of Diamonds, 9 of Hearts and 9 of Spades), 13 cards of each suit and $13 \cdot 4 = 52$ cards in total.

Area Under the Standard Normal Curve
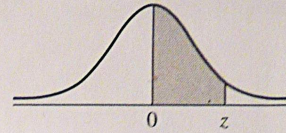
z	A	z	A	z	A	z	A	z	A	z	A	z	A
0.00	0.0000	0.50	0.1915	1.00	0.3413	1.50	0.4332	2.00	0.4773	2.50	0.4938	3.00	0.4987
0.01	0.0040	0.51	0.1950	1.01	0.3438	1.51	0.4345	2.01	0.4778	2.51	0.4940	3.01	0.4987
0.02	0.0080	0.52	0.1985	1.02	0.3461	1.52	0.4357	2.02	0.4783	2.52	0.4941	3.02	0.4987
0.03	0.0120	0.53	0.2019	1.03	0.3485	1.53	0.4370	2.03	0.4788	2.53	0.4943	3.03	0.4988
0.04	0.0160	0.54	0.2054	1.04	0.3508	1.54	0.4382	2.04	0.4793	2.54	0.4945	3.04	0.4988
0.05	0.0199	0.55	0.2088	1.05	0.3531	1.55	0.4394	2.05	0.4798	2.55	0.4946	3.05	0.4989
0.06	0.0239	0.56	0.2123	1.06	0.3554	1.56	0.4406	2.06	0.4803	2.56	0.4948	3.06	0.4989
0.07	0.0279	0.57	0.2157	1.07	0.3577	1.57	0.4418	2.07	0.4808	2.57	0.4949	3.07	0.4989
0.08	0.0319	0.58	0.2190	1.08	0.3599	1.58	0.4430	2.08	0.4812	2.58	0.4951	3.08	0.4990
0.09	0.0359	0.59	0.2224	1.09	0.3621	1.59	0.4441	2.09	0.4817	2.59	0.4952	3.09	0.4990
0.10	0.0398	0.60	0.2258	1.10	0.3643	1.60	0.4452	2.10	0.4821	2.60	0.4953	3.10	0.4990
0.11	0.0438	0.61	0.2291	1.11	0.3665	1.61	0.4463	2.11	0.4826	2.61	0.4955	3.11	0.4991
0.12	0.0478	0.62	0.2324	1.12	0.3686	1.62	0.4474	2.12	0.4830	2.62	0.4956	3.12	0.4991
0.13	0.0517	0.63	0.2357	1.13	0.3708	1.63	0.4485	2.13	0.4834	2.63	0.4957	3.13	0.4991
0.14	0.0557	0.64	0.2389	1.14	0.3729	1.64	0.4495	2.14	0.4838	2.64	0.4959	3.14	0.4992
0.15	0.0596	0.65	0.2422	1.15	0.3749	1.65	0.4505	2.15	0.4842	2.65	0.4960	3.15	0.4992
0.16	0.0636	0.66	0.2454	1.16	0.3770	1.66	0.4515	2.16	0.4846	2.66	0.4961	3.16	0.4992
0.17	0.0675	0.67	0.2486	1.17	0.3790	1.67	0.4525	2.17	0.4850	2.67	0.4962	3.17	0.4992
0.18	0.0714	0.68	0.2518	1.18	0.3810	1.68	0.4535	2.18	0.4854	2.68	0.4963	3.18	0.4993
0.19	0.0754	0.69	0.2549	1.19	0.3830	1.69	0.4545	2.19	0.4857	2.69	0.4964	3.19	0.4993
0.20	0.0793	0.70	0.2580	1.20	0.3849	1.70	0.4554	2.20	0.4861	2.70	0.4965		
0.21	0.0832	0.71	0.2612	1.21	0.3869	1.71	0.4564	2.21	0.4865	2.71	0.4966		
0.22	0.0871	0.72	0.2642	1.22	0.3888	1.72	0.4573	2.22	0.4868	2.72	0.4967		
0.23	0.0910	0.73	0.2673	1.23	0.3907	1.73	0.4582	2.23	0.4871	2.73	0.4968		
0.24	0.0948	0.74	0.2704	1.24	0.3925	1.74	0.4591	2.24	0.4875	2.74	0.4969		
0.25	0.0987	0.75	0.2734	1.25	0.3944	1.75	0.4599	2.25	0.4878	2.75	0.4970		
0.26	0.1026	0.76	0.2764	1.26	0.3962	1.76	0.4608	2.26	0.4881	2.76	0.4971		
0.27	0.1064	0.77	0.2794	1.27	0.3980	1.77	0.4616	2.27	0.4884	2.77	0.4972		
0.28	0.1103	0.78	0.2823	1.28	0.3997	1.78	0.4625	2.28	0.4887	2.78	0.4973		
0.29	0.1141	0.79	0.2852	1.29	0.4015	1.79	0.4633	2.29	0.4890	2.79	0.4974		
0.30	0.1179	0.80	0.2881	1.30	0.4032	1.80	0.4641	2.30	0.4893	2.80	0.4974		
0.31	0.1217	0.81	0.2910	1.31	0.4049	1.81	0.4649	2.31	0.4896	2.81	0.4975		
0.32	0.1255	0.82	0.2939	1.32	0.4066	1.82	0.4656	2.32	0.4898	2.82	0.4976		
0.33	0.1293	0.83	0.2967	1.33	0.4082	1.83	0.4664	2.33	0.4901	2.83	0.4977		
0.34	0.1331	0.84	0.2996	1.34	0.4099	1.84	0.4671	2.34	0.4904	2.84	0.4977		
0.35	0.1368	0.85	0.3023	1.35	0.4115	1.85	0.4678	2.35	0.4906	2.85	0.4978		
0.36	0.1406	0.86	0.3051	1.36	0.4131	1.86	0.4686	2.36	0.4909	2.86	0.4979		
0.37	0.1443	0.87	0.3079	1.37	0.4147	1.87	0.4693	2.37	0.4911	2.87	0.4980		
0.38	0.1480	0.88	0.3106	1.38	0.4162	1.88	0.4700	2.38	0.4913	2.88	0.4980		
0.39	0.1517	0.89	0.3133	1.39	0.4177	1.89	0.4706	2.39	0.4916	2.89	0.4981		
0.40	0.1554	0.90	0.3159	1.40	0.4192	1.90	0.4713	2.40	0.4918	2.90	0.4981		
0.41	0.1591	0.91	0.3186	1.41	0.4207	1.91	0.4719	2.41	0.4920	2.91	0.4982		
0.42	0.1628	0.92	0.3212	1.42	0.4222	1.92	0.4726	2.42	0.4922	2.92	0.4983		
0.43	0.1664	0.93	0.3238	1.43	0.4236	1.93	0.4732	2.43	0.4925	2.93	0.4983		
0.44	0.1700	0.94	0.3264	1.44	0.4251	1.94	0.4738	2.44	0.4927	2.94	0.4984		
0.45	0.1736	0.95	0.3289	1.45	0.4265	1.95	0.4744	2.45	0.4929	2.95	0.4984		
0.46	0.1772	0.96	0.3315	1.46	0.4279	1.96	0.4750	2.46	0.4931	2.96	0.4985		
0.47	0.1808	0.97	0.3340	1.47	0.4292	1.97	0.4756	2.47	0.4932	2.97	0.4985		
0.48	0.1844	0.98	0.3365	1.48	0.4306	1.98	0.4762	2.48	0.4934	2.98	0.4986		
0.49	0.1879	0.99	0.3389	1.49	0.4319	1.99	0.4767	2.49	0.4936	2.99	0.4986		

Math 10120 Finite Math.
Final Exam
May 7, 2020

Name: _____

- Please return this exam to me by midnight tonight. You only have to return this page (with your answers), but if you want to send all of the pages, I will accept them. Scanning is preferable to photos (especially if you send more than this front page), but photos will be accepted.
- The Honor Code is in effect for this examination. You may use your class notes and you may use the textbook for the class. No other consultation is allowed. Good Luck!

Honor Pledge: _____

PLEASE MARK YOUR ANSWERS WITH AN X, not a circle!

1.	(a)	(b)	(c)	(●)	(e)	19.	(a)	(●)	(c)	(d)	(e)
2.	(●)	(b)	(c)	(d)	(e)	20.	(a)	(b)	(c)	(●)	(e)
3.	(●)	(b)	(c)	(d)	(e)	21.	(a)	(●)	(c)	(d)	(e)
4.	(a)	(●)	(c)	(d)	(e)	22.	(●)	(b)	(c)	(d)	(e)
5.	(a)	(b)	(●)	(d)	(e)	23.	(●)	(b)	(c)	(d)	(e)
6.	(a)	(b)	(c)	(d)	(●)	24.	(a)	(b)	(c)	(d)	(●)
7.	(a)	(b)	(●)	(d)	(e)	25.	(a)	(b)	(●)	(d)	(e)
8.	(a)	(●)	(c)	(d)	(e)	26.	(a)	(b)	(c)	(●)	(e)
9.	(●)	(b)	(c)	(d)	(e)	27.	(a)	(●)	(c)	(d)	(e)
10.	(a)	(b)	(c)	(d)	(●)	28.	(●)	(b)	(c)	(d)	(e)
11.	(a)	(b)	(●)	(d)	(e)	29.	(a)	(b)	(c)	(●)	(e)
12.	(a)	(b)	(c)	(●)	(e)	30.	(a)	(b)	(c)	(d)	(●)
13.	(a)	(●)	(c)	(d)	(e)						
14.	(a)	(b)	(c)	(●)	(e)						
15.	(a)	(b)	(c)	(d)	(●)						
16.	(●)	(b)	(c)	(d)	(e)						
17.	(a)	(b)	(●)	(d)	(e)						
18.	(a)	(b)	(●)	(d)	(e)						