
 MINISTRY OF EDUCATION


لكل المـهتمين و المـهتمـات بدروس و مراجع الجامعيـة eduschool40.blog مدونةّ المناهـح اللسعودية

| Name: | ID \#: | Section: |
| :--- | :--- | :--- |

You have 40 questions. You have 120 minutes to solve the exam. Please mark all your answers on the answer sheet provided to you. Make sure that the answer sheet form matches the question form. You have to submit both question paper and answer sheet but only answer sheets will be graded. Good luck

## Choose the best answer for each of the following questions:

Use the following to answer questions 1-3:

| $x$ | -8 | 2 | 4 |
| :---: | :---: | :---: | :---: |
| $P(x)$ | 0.33 | $\boldsymbol{p}$ | 0.12 |

1. The mean of the distribution is equal to ...
А) -0.666667
B) -1.06
C) 1
D) -2.16
2. The sample size is ...
A) 3
B) 1
C) Cannot be determined
D) -2
3. The value of $\boldsymbol{p}$ is equal to ...
А) 0.88
В) 0.55
C) 0.67
D) 0
4. If the variance of a probability distribution is 23.4 , what is the standard deviation?
А) 11.7
В) 4.837355
C) 547.56
D) 46.8
5. If a set of 13 numbers has standard deviation 16 , then it's variance is ..
А) 4.44 .
В) 1.23 .
C) 4.00 .
D) 256.00 .
6. What type of distributions is the normal distribution?
A) Discrete.
C) Continuous.
B) Neither discrete nor continuous.
D) Discrete and continuous.
7. A researcher wishes to select the top $14 \%$ of students for his study. If the grades of students is normally distributed with mean 85 and standard deviation 9 , the lowest grade that allows a student to participate in the study is ...
А) 88.61
B) 94.72
C) 74.23
D) 81.4
8. In a certain school, it is known that $33 \%$ of instructors are using e-mail to send messages. For a sample of 12 instructors, find the probability that exactly 6 of them are using e-mail.
А) 0.892055
В) 0.33
C) 0.107945
D) 0.5
9. One hundred students are selected randomly from 1000 students using a computer random generation numbers. The sampling method is ...
A) stratified
B) random
C) cluster
D) systematic
10. The probability is 0.8 that a person shopping at a certain store will spend less than $\$ 200$. For a group of size 55 , find the mean number of customers who spend more than $\$ 200$.
A) 55
В) 68.75
C) 44
D) 11

Use the following to answer questions 11-13:

11. The cumulative percentage for the third part is
A) $52 \%$
В) $30 \%$
C) $42 \%$
D) $15 \%$
12. The degree of the third part is ...
А) 57.6
B) 54
C) 43.2
D) 36
13. The missing percentage is ...
A) $15 \%$
B) $17 \%$
C) $16 \%$
D) $18 \%$

Use the following to answer questions 14-17:
In a medical study, the mean systolic blood pressure is 117 and the standard deviation is 6 .
14. The probability that the mean of systolic blood pressure for a sample of 55 patients will be less than 118 is ...
А) 0.4325
В) 0.8925
C) 0.1075
D) 0.5675
15. The probability that a person will have a systolic blood pressure more than 117 is ...
А) -0.5
B) 0.4299
C) 0.5
D) 0
16. The probability that a person will have a systolic blood pressure greater than 120 is
А) 0.1915
В) 0.8085
C) 0.6915
D) 0.3085
17. The probability that a person will have a systolic blood pressure between 115 and 120 is ...
A) -0.3208
В) 0.6915
C) 0.3208
D) 0.3707

Use the following to answer questions 18-19:
The medal distribution from the 2004 Olympics Games for top countries is shown below:

| Countries | Gold | Silver | Bronze | Total |
| :--- | :---: | :---: | :---: | :---: |
| United States | 35 | 39 | 29 | 103 |
| Russia | 27 | 27 | 38 | 92 |
| China | 32 | 17 | 14 | 63 |
| Australia | 17 | 16 | 16 | 49 |
| Others | 133 | 136 | 153 | 422 |
| Total | 244 | 235 | 250 | 729 |

18. The probability that the winner was from Australia, given that he won a gold medal is ...
А) 0.1107 .
В) 0.0697 .
C) 0.1311 .
D) 0.1434 .
19. The probability that the winner won the gold medal, given that the winner was from the United States is ...
А) 0.3469 .
B) 0.5079 .
C) 0.3398 .
D) 0.2935 .
20. A company manufactures batteries in groups of 26 and there is a $16 \%$ rate of defects. Find the standard deviation for the number of defects per group.
А) 186.933
B) 34944
C) 3.494
D) 1.869
21. The braking time of a car is example of .. . variable.
A) ordinal
B) continuous
C) nominal
D) discrete
22. The mode is one of the measures of ...
A) dispersion.
B) skewing.
C) correlation.
D) central tendency.
23. A correlation coefficient of 0.78 would mean that ...
A) the values of $x$ increase as the values of $y$ decrease.
B) the values of $x$ increase as the values of $y$ increase.
C) the values of $x$ decrease as the values of $y$ increase.
D) there is no relationship between $x$ and $y$.
24. How many 6 -digit numbers can be formed using the digits $0,1,2,3,4,5,6,7$ if repetition of digits is not allowed?
A) 28
B) 20160
C) 7
D) 5040
25. All the following are the measures of central tendency EXCEPT the ...
A) median.
B) midrange.
C) range.
D) mean.
26. The mean of a normal probability distribution is 532 and the standard deviation is 5. About 95 percent of the observations lie between what two values?
A) 512 and 552
B) 527 and 537
C) 522 and 542
D) 517 and 547
27. Describe which measure of position was probably used "One-half of the factory workers make more than $\$ 10$ per hour."
A) IQR
B) Q2
C) Q1
D) Q 3
28. Choosing 7 people (without replacement) from a group of 35 people, of which 15 are women, keeping track of the number of men chosen. Then, the procedure ...
A) does not result in a binomial distribution because there are more than two outcomes for each trial.
B) results in a binomial distribution.
C) does not result in a binomial distribution because the trials are not independent.
D) does not result in a binomial distribution because there are too many trials.
29. An airline estimates that $98 \%$ of people booked on their flights actually show up. If the airline books 81 people on a flight for which the maximum number is 79 , what is the probability that the number of people who show up will exceed the capacity of the plane?
А) 0.194676
В) 0.516487
C) 0.483513
D) 0.321811
30. The range of the data set ( $4,-5,0,6,-10$ ) is ...
A) 6
B) 16
C) 14
D) -14
31. The type of graph that represents the data by using vertical bars of various heights to indicate frequencies is ...
A) pie graph
B) time series graph
C) histogram
D) stem and leaf plot
32. If the equation for the regression line is $y=-2 x+5$, then the sign of the correlation coefficient between the two variables ...
A) is positive.
B) can not be determined,
C) is -2 .
D) is negative.

Use the following to answer questions 33-35:
The blood type of a sample of 111 patients are shown in the following table:

| Blood Type | No. of <br> patients |
| :---: | ---: |
| A | 16 |
| B | 24 |
| AB | 50 |
| O | 21 |
| Total | 111 |

33. The type of data is
A) discrete.
B) nominal.
C) ordinal.
D) continues.
34. The range ...
A) Cannot be calculated
B) is 22.5 .
C) is 8 .
D) is 16 .
35. The mode ...
A) is 111 .
B) Cannot be calculated.
C) is blood type AB.
D) is 50 .
36. A contractor is considering a sale that promises a profit of $\$ 52823$ with a probability of 0.6 or a loss (due to bad weather, strikes, and such) of $\$ 16928$ with a probability of 0.4 . What is the expected profit?
А) $\$ 38465$.
В) $\$ 14765.8$.
C) $\$ 24922.6$.
D) $\$ 31693.8$.
37. A gardener has 43 clients, $24 \%$ of whom are businesses. Find the number of business clients.
A) 1032 clients.
B) 43 clients.
C) 10 clients.
D) 24 clients.
38. A class consists of 56 women and 59 men. If a student is randomly selected, what is the probability that the student is a man?
А) 0.0179
В) 0.513
C) 0.487
D) 0.0169
39. If the probability that a new drug will be successful is 0.898 , then the probability that it will not be successful is ...
А) 0.898 .
В) 0.102 .
C) 1. D) 0 .
40. The standard deviation of the sample means will be ... the standard deviation of the population.
A) smaller than
B) equal to
C) larger or smaller than
D) larger than

Good luck
Stat 110 Team

## Answer Key

1. B
2. C
3. B
4. B
5. D
6. C
7. B
8. C
9. B
10. D
11. C
12. C
13. D
14. B
15. C
16. D
17. C
18. B
19. C
20. D
21. B
22. D
23. B
24. B
25. C
26. C
27. B
28. C
29. B
30. B
31. C
32. D
33. B
34. A
35. C
36. C
37. C
38. B
39. B
40. A

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## Choose the best answer for each of the following questions:

1. Data that can be classified according to color are measured on what scale?
A) Ordinal
B) Nomial
C) Ratio
D) Interval
2. A researcher divided subjects into seven groups according to nationality and then interviewed all members from four groups that have been selected randomly. What sampling method was the researcher using?
A) Systematic
B) Stratified
C) Random
D) Cluster

Use the following to answer questions 3-6:
In the study of relationship between the number of absences $X$ and the final grade $Y$ of 32 students in the statistic class, the data are shown as follows
$\sum X=130, \sum Y=649, \sum X Y=2288, \sum X^{2}=708$ and $\sum Y^{2}=14865$
3. The value of the Pearson correlation coefficient is
A) -0.775
B) -0.903
C) -0.458
D) -0.630
4. The value of the Pearson correlation coefficient means that there is a ... linear relationship between and the number of absences and the final grade.
A) very strong negative
B) strong negative
C) moderate negative
D) weak negative
5. The final grade is called ... variable.
A) independent
B) dependent
C) predictor
D) explanatory
6. The slope of the regression line is ...
A) -1.938
B) 7.728 .
C) 2.086
D) -2.086
7. The class width for the class boundary $5.05-8.15$ is ...
A) 3.11
B) 3.1
C) 3.51
D) 3.5
8. A box contains 20 red balls and 22 black balls. 10 balls are selected with replacement. The standard deviation of the number of red balls that will be obtained is ...
A) 1.579
B) 1.505
C) 1.563
D) 1.576
9. A committee of 7 people is to be formed from 13 doctors and 15 engineers. Find the probability that the committee will consist of at least two doctors.
A) 0.940
B) 0.883
C) 0.938
D) 0.973
10. The $z$ value that is corresponding to a number above the mean is ...
A) always positive.
B) always negative.
C) mostly positive. D) mostly negative.
11. A survey found that the microwave ovens have an average life of 2 years with a standard deviation of 0.5 year. Assume the variable is normally distributed. What percent of microwave ovens would be replaced if a warranty of 21 months were given?
A) $6.68 \%$
B) $30.85 \%$
C) $93.32 \%$
D) $69.15 \%$

Use the following to answer questions 12-16:
The monthly income, $X$, of a family in a given city is normally distributed with mean $\$ 1666$ and standard deviation \$674.
12. The standard error of the mean for a random sample of size 34 is ...
A) 121.328
B) 115.590
C) 117.328
D) 123.055
13. The probability that a person selected at random earns a monthly income greater than $\$ 2150$
A) 0.7358
B) 0.2358
C) 0.7642
D) 0.2642
14. If a random sample of size 32 is selected at random, find the probability that the mean income of the sample is between $\$ 1515$ and $\$ 1818$
A) 0.0017
B) 0.3997
C) 0.3980
D) 0.7977
15. The probability that a person selected at random earns a monthly income between $\$ 1300$ and $\$ 3100$
A) 0.6888
B) 0.2054
C) 0.2780
D) 0.4834
16. The probability that a person selected at random earns a monthly income less than $\$ 1200$
A) 0.2451
B) 0.2549
C) 0.7549
D) 0.5451

Use the following to answer questions 17-19:
Use the following probability distribution to answer the following three questions.

| $X$ | 1 | 2 | 5 | 7 | 9 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $P(X)$ | 0.125 | 0.025 | 0.125 | 0.573 | 0.152 |

17. The value of the sample size ...
A) is 5
B) cannot be determined
C) is 24
D) is 1
18. The value of the mean for the previous probability distribution ...
A) cannot be determined
B) is 4.8
C) is 6.179
D) is $1 / 5$
19. The value of the variance for the previous probability distribution ...
A) is 4.830
B) cannot be determined
C) is 2.358
D) is 5.559
20. Which measures are mostly affected by outliers?
A) Mode and median
B) Mean and median
C) Mode and range
D) Range and variance

Use the following to answer questions 21-22:
Two dice are rolled. Let $X$ represents the summation of the two faces that will appear.

| $\begin{gathered} \text { Die } \\ 2 \end{gathered}$ | Die 1 |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | X | 1 | 2 | 3 | 4 | 5 | 6 |
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|  | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|  | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|  | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|  | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|  | 6 | 7 | 8 | 9 | 10 | 11 | 12 |

21. The probability of $X \leq 1$ is ...
A) 0
B) 0.056
C) 1
D) 0.065
22. The probability of $X \geq 8$ is ...
A) 0.417
B) 0.278
C) 0.583
D) 0.722
23. Find the value of z such that the shaded tail areas equals 0.011

A) 2.43
B) 2.54
C) 2.17
D) 2.29
24. The number of trials in a binomial experiment
A) must be fixed
B) are unlimited
C) are independent
D) are dependent

Use the following to answer questions 25-26:
Let $X$ be a normally distributed random variable with mean 18 and a standard deviation 10. Use this information to find the value of $\boldsymbol{a}$ such that
25. $P(X<a)=0.3085$
A) 23
B) 22
C) 14
D) 13
26. $P(a<X<20)=0.1586$
A) 16
B) 14
C) 13
D) 11
27. A researcher stood at a busy intersection to see if the color of the automobile that a person drives is related to running red lights. The type of study used here is ... study.
A) convenience
B) observational
C) experimental
D) quasi-experimental
28. A measure obtained from population data is called a(n) ...
A) parameter.
B) sample.
C) population.
D) statistic.
29. "A distribution using the means computed from all possible random samples of a specific size taken form a population." The previous statement is the definition of
A) empirical distribution
B) central limit theorem
C) sampling distribution
D) sampling error
30. Six different summer theater actors were ranked by male and female patrons on the basis of diction and appearance. The data are shown here ( 1 is the highest rating).

| Actors | A | B | C | D | E | F |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Males | 6 | 3 | 2 | 1 | 5 | 4 |
| Females | 4 | 5 | 1 | 3 | 6 | 2 |

The Spearman rank correlation coefficient ( $r_{s}$ ) equals ...
A) -0.029
B) 0.486
C) 0.657
D) -0.200
31. Which is not a property of the standard normal distribution?
A) It is bell-shaped.
B) It is symmetric.
C) It is continouse.
D) It is bimodal.
32. A die is rolled 4 times. The probability of getting a number 4 one time only is ...
A) 0.402
B) 0.347
C) 0.278
D) 0.386
33. The midrange value for the following Boxplot is ...

A) 20
B) 40
C) 22.5
D) 25
34. If the value $X=9$ has a $z$-score of -0.05 and standard deviation 8 in a data set, then the mean value ...
A) cannot be determined
B) is 9.4
C) is -8.6
D) is 8.6

Use the following to answer questions 35-38:
The following table shows the distribution of the blood type for 95 students:

| Classes | A | B | O | AB |
| :--- | :---: | :---: | :---: | :---: |
| Frequency | 37 | 12 | 35 | 11 |

35. The mode value
A) cannot be calculated
B) is 95
C) is 37
$\mathrm{D})$ is A
36. The probability of selecting a student with AB blood type is ...
A) 15
B) 0.842
C) 0.158
D) 0.116
37. In a pie graph, how many degrees would be needed to represent A?
A) $53.05^{\circ}$
B) $140.21^{\circ}$
C) $87.16^{\circ}$
D) $75.79^{\circ}$
38. The type of the frequency distribution is ... distribution.
A) ungrouped frequency
B) grouped frequency
C) categorical frequency
D) probability

Use the following to answer questions 39-40:
The table below shows the number of earned degrees in the year 2008 in a university by level and gender. A person who earned a degree in the year 2008 from this university is randomly selected. Find the probability of selecting someone who

|  |  | Male | Female |
| :---: | :---: | :---: | :---: |
| Level of Degree | Bachelor's | 540 | 888 |
|  | Master's | 250 | 155 |
|  | PhD's | 150 | 50 |

39. earned a master's degree or is a female.
A) 0.712
B) 0.602
C) 0.658
D) 0.661
40. is a female given that the person earned a bachelor's degree.
A) 0.507
B) 0.521
C) 0.620
D) 0.622

Good luck
Stat 110 Team

## Answer Key

1. B
2. D
3. D
4. C
5. B
6. A
7. B
8. A
9. A
10. A
11. B
12. B
13. B
14. D
15. A
16. A
17. B
18. C
19. D
20. D
21. A
22. A
23. B
24. A
25. D
26. A
27. B
28. A
29. C
30. B
31. D
32. D
33. C
34. B
35. D
36. D
37. B
38. C
39. D
40. D

Final Exam
STAT 110

First Term
1434-1435

| Name: | ID \#: | Section: |
| :--- | :--- | :--- |

You have 40 questions. You have 120 minutes to solve the exam. Make sure that the answer sheet form matches the question form. Please mark all your answers on the answer sheet provided to you.

## Choose the best answer for each of the following questions:

1. For a normal curve with mean 8 and standard deviation 5 , which of the following parts of the normal curve will have an area of approximately $95 \%$ ?
A) from -2 to 18
B) from 8 to 23
C) from 3 to 13
D) from -7 to 23

Use the following to answer questions 2-4:
A box contains 16 mobiles is purchased. The probability that a mobile will be defective is 0.3 . Use these information to answer the following three questions:
2. What is the probability of having 6 defective mobiles?
A) 0.164904
B) 0.000006
C) 0.005563
D) 0.000729
3. The variance of the number of defective mobiles is ...
А) 3.36
B) 4.8
C) 11.29
D) 1.83
4. The mean number of non-defective mobiles is ...
А) 1.83
В) 3.36
C) 4.8
D) 11.2

Use the following to answer questions 5-8:
The following table represents the cumulative relative frequency for 39 patients' height:

| Class <br> Boundary for <br> heights | Cumulative <br> Relative <br> Frequency |
| :---: | :---: |
| $4.5-9.5$ | 0.1795 |
| $9.5-14.5$ | 0.2051 |
| $14.5-19.5$ | 0.2821 |
| $19.5-24.5$ | 0.4615 |
| $24.5-29.5$ | 0.7949 |
| $29.5-34.5$ | 1 |

5. The class limit that has the largest frequency is ...
А) 29.5-34.5
B) 24.5-29.5
C) 30-34
D) 25-29
6. The sample size ...
A) cannot be determined.
B) is 6 .
C) is 1 .
D) is 39 .
7. The cumulative relative frequency of patients with heights less than or equal to 24 is ...
A) 0.4615
В) 0.7949
C) 24.5
D) 0.2821
8. The cumulative frequency for the second class ...
A) is 14.5 .
B) is 8 .
C) is 0.2051 .
D) can't be determined.

Use the following to answer questions 9-15:
The following data represents the temperature of seven consecutive days in a city:

$$
-7.5,-7.5,-7.5,-10.5,-7.5,-4.5,-7.5
$$

Use this data to answer the following seven questions.
9. The value of the median is
А) -7.5
B) 7.5
C) -10.5
D) -4.5
10. The value of the standard deviation is ...
A) 3
B) 134
C) 1.73
D) 11.6
11. The value of the mean is ...
А) -7.5
B) 58.8
C) 7.5
D) -58.8
12. The value of the range is ...
A) 0
B) 7
C) 6
D) -6
13. The value of the inter-quartile range (IQR) is ...
A) 3
B) -3
C) 0
D) 6
14. What can you say about the outliers?
A) Cannot be determined.
C) There is one outlier.
B) There are two outliers.
D) There is no outliers.
15. The value of the mode is ..
A) 7
B) -10.5
C) -4.5
D) -7.5
16. A store manager has 4 distinctive toothpastes, 2 distinctive toothbrushes and 3 distinctive mouthwashes and would like to arrange all of them in order on a shelf. In how many different ways can they be arranged?
A) 288
B) 24
C) 32
D) 362880
17. When 2 dice ( 6 -sided each) are rolled, find the probability of getting a sum of 12 .
А) $2 / 36$
B) $1 / 6$
C) $1 / 36$
D) $2 / 6$
18. "Grade letters (A, B, C, D , F)" is an example of ... level of measurement.
A) can not be determined
B) a nominal
C) an ordinal
D) nominal and ordinal
19. If a variable has possible values $-4,-1,7,11$ and 13 , then this variable is
A) both a continuous and a discrete variable.
C) a continuous variable.
B) neither a continuous nor a discrete variable.
D) a discrete variable.
20. The best graph for displaying the birth weights data is the
A) bar chart.
B) histogram.
C) Pareto chart.
D) pie graph.
21. In a multiple choice questions exam, the complement of guessing 14 correct answers on a 14question exam is .
A) guessing at least 1 correct answer.
C) guessing six incorrect answers.
B) guessing at least 1 incorrect answer.
D) guessing no incorrect answers.
22. What type of sampling is being employed if the population is divided into groups and a sample is chosen from some groups to be surveyed?
A) Systematic sampling.
B) Random sampling.
C) Stratified sampling.
D) Cluster sampling.
23. For the class $10-20$, the upper class limit is .
А) 9.5
В) 20.5
C) 10
D) 20
24. In a club there are 7 teachers and 17 students. A committee of 2 teachers and 3 students is to be chosen. How many different possibilities are there?
A) 119
B) 14280
C) 42504
D) 701
25. In a medical study, it is always preferable for the researcher to choose his participants ...
A) in sequence.
B) as carefully as possible.
C) in order.
D) randomly.
26. The probability of winning a car that priced at 85000 SAR is 0.006 . The cost to enter the pull is 860 SAR. Then, the expected value of the gain is ...
A) -350
B) -344.84
C) 1359.68
D) 1364.84

Use the following to answer questions 27-30:
The following table represents the probability distribution of the number of boys in a sample of families:

| X | 0 | 1 | 2 | 3 |
| :---: | :---: | :---: | :---: | :---: |
| $\mathrm{P}(\mathrm{X})$ | $\mathbf{K}$ | 0.2 | 0.3 | 0.3 |

Use the information given to answer the following four questions:
27. What is the probability of getting at most 2 boys?
А) 0.3
B) 0.7
C) cannot be determined.
D) 0.5
28. The probability that a family will have no boys (the value of $\mathbf{K}$ ) ...
A) is 1 .
B) is 0 .
C) cannot be determined.
D) is 0.2 .
29. The standard deviation of the number of boys in a family ...
A) is 2.02
B) is 1.21
C) cannot be determined
D) is 1.1
30. The mean number of boys in a family ...
A) is 1.5
B) is 1.7
C) is 4.1
D) cannot be determined.

Use the following to answer questions 31-32:
The following equation describes the relationship between two variables x and y :

$$
y^{\prime}=6-x
$$

Use these information to answer the following two questions:
31. The relationship between $x$ and $y$...
A) is positive linear.
B) is negative linear.
C) cannot be determined.
D) is not linear.
32. The value of the correlation coefficient between $x$ and $y$ is approximately ...
А) -0.4
B) 0
C) 0.4
D) 1

Use the following to answer questions 33-39:
The mean value for the scores of 5000 preparatory year students is 80 . If we assume that the scores are normally distributed with standard deviation 5 . Answer the following seven questions
33. What is the probability that a randomly selected student will have a score greater than 84 ?
А) 0.0228
В) 0.2119
C) 0.7881
D) 0.6554
34. What is the probability that a randomly selected student will have a score less than 84 ?
A) 0.7881
B) 0.2119
C) 0.6554
D) 0.0228
35. If a random sample of 36 students is selected, what is the probability that the mean score will be less than 78 or greater than 81 ?
А) 0.8767
В) 0.8849
C) 0.1233
D) 0.0082
36. If entry to the medical collage requires a test score in the upper $10.2 \%$, what is the lowest acceptable score that would qualify a student to enter the medical college?
А) 84.05
B) 86.35
C) 91.45
D) 89.8
37. What is the percentage of students who have scores greater than 86 ?
A) $78.81 \%$
B) $88.49 \%$
C) $11.51 \%$
D) $65.54 \%$
38. What is the probability that a randomly selected student will have a score between 72 and 85 ?
А) 0.8413
В) 0.7865
C) 0.0548
D) -0.7865
39. How many students will have scores between 76 and 90 ?
A) 530
B) 1060
C) 3827
D) 4886
40. If the standard deviation of a population is 50 and we take a sample of size 25 , then the standard error (the standard deviation of the sample mean) is
А) 2.00
В) 5.00
C) 10.00
D) 250.00

## THIS IS THE END OF THE EXAM <br> Stat 110 Team

Final Exam STAT 110 Second Semester 1437-14381

How many times a die is rolled when the mean of the numbers greater than 4 that will be rolled $=20$ ?
$\bigcirc 7$
80
5
© 60

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It was reported that $60 \%$ of computer games were dasaifed as "Family and children." If 3 computer games were purchased at random, find the probability that at least one was "family and children."

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Dases
Deasy
Bear


When the majority of the data values fall to the left of the mean, the distribution is said to be..........

O uniform
Oleft-skewed
Oright-skewed
Osymmetric

alwh oncon
< Ntal Mlsyn! coll

[^0]A survey found that one out of four people say they visit a doctor every month. If 5 people are selected at random, find the probability that exactly 2 will not visit a doctor every month.
0.563
00.009
0.264
0.088


## 



## 12 of 42 When we study the relationship between the person's age and his weight, which correlation coefficient chould be used?

o spearman only
OCannot be determined
OPearson or Spearman
O Pearson only

## 


$\begin{array}{lllll}14 & 83 & 10 & 11 & 10 \\ 18 & 38 & 18 & 31\end{array}$


(4)


If 4576 of efuclervts tike statistics and 3 stuclente are selected at random, find the protahity that raree of them likee statistics.
8.166
40 © 84
4. 0.900
00.001

| $\pm$ | $\bullet$ | , | 2 | 8 | * |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | - | - | $\cdots$ | $*$ | 1 |
|  | 14 | 83 | )38 | 41 | *6 |
| $*$ | ** | ** | Ex | 19+ | ** |
| cos |  | 4 |  | -1 | 0 |

In a company $25 \%$ of the employees got a master degree, $54 \%$ of the employees got a bachale probability that he has not gotten a doctegree. If an employee is selected at random, find the
01
00.135
0.79
0.21

$F$ alswll Enno
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Questherred
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## hin

The following plot represents the time it takes 17 students to get to school
Find the mode.
t

```
\begin{tabular}{l|lllll}
0 & 6 & 7 & 7 & 8 & 9
\end{tabular}
\(1 \begin{array}{lllllll}1 & 0 & 5 & 5 & 5 & 5 & 9\end{array} 7\)
\(\begin{array}{llllll}2 & 1 & 2 & 3 & 3 & 6\end{array}\)
```

8


5 alewill zenaio
< Nlal Jlg


## 




## Final Exam STAT 110 Secons

If the sample size is 40 and the variance is 64 , then the standard deviation is:
06.3

08
04096

- 1.6


A student takes a 4 questions multiple choice exam with three choices for each question and each question. Find the probability of guessing at most 2 correct questions.0.407
00.593
0.111
0.889

I. altuill gave
< whal utsmal


The percentage of blood type (A) in a ple graph is $65 \%$. The corresponding degree of the angle ia: 0650
$.234^{\circ}$
$00.2^{\circ}$
$\bigcirc 18^{\circ}$
5 allwill cane




Which of the following represents a random sample:
Selecting every 10th customer to ask them about their opinion in the new product.
O Selecting three hospitals from all hospitals in Jeddah and asking all patients in them about the qualit recelve.
Selecting 20 teachers using random numbers to determine their salaries.
Dividing students into groups according their grades and then selecting 10 students from each grou

One thousand tickets are sold at $\$ 2$ each for an iPad valued at $\$ 800$. What is the gain if you purchase two tickets?

- -3.2
- -2.4
- -1.2
- -0.4


## $+a-$

Final Exam STAT 110 Second Semester 1437-14381

How many times a die is rolled when the mean of the numbers greater than 4 that will be rolled $=20$ ?
$\bigcirc 7$
80
5
© 60

( alkolll oknace
< NWا Jlgmil




Final Exam STAT 110 Second Semester 1437-1438

At a local university, $90 \%$ of first-year students have computers. If 3 students are selected at random, find the probability that none of them has a computer.
00.729
0.271
0.001
0.999


< งWI Jlgmel


# When we stucly the relationship correlation coefficient could bip <br> 0.8 <br> $0-0.07$ <br> 0 <br> $0-0.9$ 




Final Exam STAT 110 Second Semester 14

For the following probability distribution, find the probability that $X$ is more than or equal 3.

| $X$ | 2 | 3 | 4 | 5 |
| :---: | :---: | :---: | :---: | :---: |
| $P(X)$ | 0.3 | 0.31 | 0.19 | 0.2 |

0.70
0.39
0.19
(-) 0.31



42 Compute the mean for the following probability distribution:

| $X$ | 0 | 1 | 5 | 6 |
| :---: | :---: | :---: | :---: | :---: |
| $P(X)$ | 0.2 | 0.1 | 0.6 | 0.1 |

${ }^{\circ} 3$
$\bigcirc 18.7$
$\bigcirc 12$
3.7




When we study the relationship between the number of studying hours and the weight of a student, the
correlation coefficient could be:
00
O-1
0.9
$0-0.8$




In a company $33 \%$ of the employees got a master degree, $5 \%$ of the employees got a doctorate degree, and the others got a bachelor degree. If an employee is selected at random, find the probabil that he has not gotten a bachelor degree.
00.017

01
0.38
0.62


5 alewll onve






Which of these cannot be considered a probability?

- $-58 \%$
- 82\%

00
0.17

5. The standard normal distribution is a normal distribution with
A) mean $=1$, standard deviation $=0$
B) mean $=0$, standard deviation $=1$
C) mean $=-1$, standard deviation $=1$
D) mean $=1$, standard deviation $=1$
6. The average number of calories in a chocolate bar is 225 . Suppose that the variable is approximately normally distributed with a standard deviation 10. Find the probability that a randomly selected chocolate bar will have less than $\mathbf{2 0 0}$ calories.
A) 0.0062
B) 0.9938
C) 0.4938
D) 0.0202

When we study the relationship between the age of a house and its price, which correlation should be used?
Pearson or Spearman

- Pearson only
$\bigcirc$ Cannot be determined
Spearman only


منصح الإسبلa
السوال الفالى > gain if you purchase two tickets?
$\overbrace{0-1.2}^{-3.2}-2.4$

[^1]If 4506 of students like statistics and 3 atuder
them likes statistics.
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0.001

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Final Exam STAT 1.10 Second Semester 1437-14381 16 of 42

Find the IQR from the following data: 12 20 56 $6 \quad 18$
027 012
0.4
0.18

$\Sigma$

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# Pinal Exam STAT 110 Second Semeste 

If there was a weak negative relationship between two variables, then the value of the of0.70.01
0.8.
$)^{0.10}$
alhwill Onaw
< wall Jly

# Pinal Exam STAT 110 Second Semeste 

0.70,010.8
(C) 0.10
alhwill Onaw
< wall Jly

Which of the following represents a random sample:
Selecting every 10th customer to ask them about their opinion in the new product
Selecting three hospitals recelve.

Selecting 20 teachers using random numbers to determine their salaries
Dividing students into groups according their grades and then selecting 10 students from each grou
allw
< NWl السـ

Final Exam STAT 1.10 Second Semester 1437-14381 16 of 42

Find the IQR from the following data: 12 20 5 $6 \quad 18$
027
012
(9) 24

18


5

< NWW السالس
الـساتو


4 of 42 The value that occurs most often in a data set is called the.
midrange
mean
median
0
mode

In a company $\mathbf{2 5 \%}$ of the employees got a master degree, $54 \%$ of the employees got a bachelor degree, and the others got a doctorate degree. If an employee is selected at random, find the probability that he has not gotten a doctorate degree.

01
0.135
0.79
0.71



One thousand tickets are sold at $\$ 2$ each for an iPad valued at $\$ 800$. What is the gain if you purchase two tickets?

- -3.2
- -2.4
- -1.2
- -0.4


## $+a-$


[^0]:    

[^1]:    3

    ค 4
    9
    $\checkmark \quad 14$
    19

