1. The following table contains data from a study of two airlines which fly to Small Town, USA.

|  |  |  |
| --- | --- | --- |
|  | Number of flights  which were on time | Number of flights  which were late |
| Podunk Airlines | 33 | 6 |
| Upstate Airlines | 43 | 5 |

If one of the 87 flights is randomly selected, find the probability that the flight selected arrived on time if given that it was an Upstate Airlines flight. Express your answer as simplified fraction.

1. None of the above is correct
2. Use the Poisson Distribution to find the indicated probability.

If the random variable x has a Poisson Distribution with mean µ = 0.541, find the probability that

x = 3. Round to five decimal places.

1. 0.01844
2. 0.01536
3. 0.01921
4. 0.04533
5. Assume that a procedure yields a binomial distribution with a trail repeated n times. Use the binomial probability formula to find the probability of x successes given the probability p of success on a single trial. Round to three decimal places.

N = 12; x = 5; p = 0.25

1. 0.091
2. 0.082
3. 0.103
4. 0.027
5. A survey of the 6,747 vehicles on the campus of

state university yielded the following pie chart.

What percent of the vehicles are hatchbacks?

1. 35%
2. 8%
3. 27%
4. 236%
5. Determine whether the given value is from a discrete or continuous data set.

The number of stories in a Manhattan building is 22.

1. Discrete
2. Continuous
3. Determine whether the given value is a statistic or a parameter.

After taking the first exam, 15 of the students dropped the class.

1. Parameter
2. Statistic
3. Find the variance for the given data. Round your answer to one more decimal place than the original data.

Jeanne is currently taking college zoology. The instructor often gives quizzes. On the past five quizzes, Jeanne got the following scores:

14 17 11 20 18

1. 12.5
2. 12.4
3. 65.8
4. 10.0
5. Six college buddies bought each other Christmas gifts. The amounts they spent are shown below.

$241.29 $125.46 $275.61

$166.43 $155.16 $238.72

What was the mean amount spent? Round your answer to the nearest cent.

1. $300.67
2. $228.53
3. $240.53
4. $200.45

|  |  |
| --- | --- |
| Houses Sold (x) | Probability P(x) |
| 0 | 0.24 |
| 1 | 0.01 |
| 2 | 0.12 |
| 3 | 0.16 |
| 4 | 0.01 |
| 5 | 0.14 |
| 6 | 0.11 |
| 7 | 0.21 |

1. Find the mean of the given

probability distribution. The random

variable x is the number of houses

sold by a realtor in a single month at

the Sendsom’s Real Estate office.

1. µ = 3.60
2. µ = 3.40
3. µ = 3.35
4. µ = 3.50
5. The heights of the adults in one town have a mean of 67.3 inches and a standard deviation of 3.6 inches. What can you conclude from Chebyshev’s theorem about the percentage of adults in the town whose heights are between 56.5 and 78.1 inches?
6. The percentage is at least 99.7%
7. The percentage is at most 99.7%
8. The percentage is at most 88.9%
9. The percentage is at least 88.9%
10. A tourist in France wants to visit 12 different cities. How many different routes are possible?
11. 12
12. 11
13. 479001600
14. 144
15. The test scores of 40 students are summarized in the frequency distribution below. Find the standard deviation.

|  |  |
| --- | --- |
| Score | Students |
| 50-59 | 5 |
| 60-69 | 5 |
| 70-79 | 10 |
| 80-89 | 14 |
| 90-99 | 6 |

1. 12.4
2. 11.8
3. 11.2
4. 13.0
5. Two 6-sided dice are rolled. What is the probability that the sum of the two numbers on the dice will be 4?
6. 3
7. A sample of 100 wood and 100 graphite tennis rackets are taken from the warehouse. If 14 wood and 18 graphite are defective and one racket is randomly selected from the sample, find the probability that the racket is wood or defective.
8. 0.570
9. 0.590
10. 0.160
11. There is insufficient information to answer the question.
12. Michael gets test grades of 70, 77, 83, and 90. He gets a 95 on her final exam. Find the weighted mean if the tests each count for 10% and the final exam counts for 60% of the final grade. Round to one decimal place.
13. -71.0
14. 249.0
15. 83.0
16. 89.0
17. Find the mean, µ, for the binomial distribution which has the stated values of n and p. Round to the nearest tenth.

n = 40; p =

1. µ = 23.5
2. µ = 24.3
3. µ = 24.7
4. µ = 24.0
5. In one town, 21% of all voters are Democrats. If two voters are randomly selected for a survey, find the probability that they are both Democrats. Round to the nearest thousandth if necessary.
6. 0.042
7. 0.210
8. 0.420
9. 0.044
10. Assume that a researcher randomly

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| x(girls) | P(x) | x(girls) | P(x) | x(girls) | P(x) |
| 0 | 0.000 | 5 | 0.122 | 10 | 0.061 |
| 1 | 0.001 | 6 | 0.183 | 11 | 0.022 |
| 2 | 0.006 | 7 | 0.209 | 12 | 0.006 |
| 3 | 0.022 | 8 | 0.183 | 13 | 0.001 |
| 4 | 0.061 | 9 | 0.122 | 14 | 0.000 |

selects 14 newborn babies and counts

the number of girls selected, x. The

probabilities corresponding to the 14

possible values of x are summarized

in the given table.

Find the probability of selecting 9 or

more girls.

1. 0.001
2. 0.122
3. 0.212
4. 0.061
5. Use the range rule of thumb to estimate the standard deviation. Round results to the nearest tenth.

The heights in feet of people who work in an office are as follows.

5.6 5.8 5.6 5.4 5.9 5.7 5.6 6.2 5.7 5.7

1. 0.1
2. 1.2
3. 0.5
4. 0.2
5. The frequency distribution below summarizes the home sale prices in the city of Summerhill for the month of June. Determine the width of each class.

|  |  |
| --- | --- |
| (Sales price in thousands $) | Frequency |
| 80.0-110.9 | 2 |
| 111.0-141.9 | 5 |
| 142.0-172.9 | 7 |
| 173.0-203.9 | 10 |
| 204.0-234.9 | 3 |
| 235.0-265.9 | 1 |

1. 30
2. 31
3. 28
4. 61
5. Find the midrange for the given sample data.

49 52 52 52 74 67 55 55

1. 53.5
2. 25
3. 61.5
4. 12.5
5. Express the confidence interval 0.583 ± 0.036 in the form of E < P < E.
6. 0.547 < p < 0.583
7. 0.565 < p < 0.601
8. 0.583 < p < 0.619
9. 0.547 < p < 0.619
10. Estimate the indicated probability by using the normal distribution as an approximation to the binomial distribution. Round your answer to found decimal places.

Estimate the probability of getting exactly 43 boys in 90 births.

1. 0.1658
2. 0.0159
3. 0.0729
4. 0.0768
5. A bag contains 4 red marbles, 3 blue marbles, and 7 green marbles. If a marble is randomly selected from the bag, what is the probability that it is blue?
6. Alex and Juana went on a 46 – mile canoe trip with their class. On the first day they traveled 23 miles. What percent of the total distance did they canoe?
7. 0.5%
8. 50%
9. 2%
10. 200%
11. Use the data to create a stemplot.

The following data show the number of laps run by each participant in a marathon.

46 65 5 43 51 48 57 30 43 49 32 56

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3 | 0 | 2 |  |  |  |
| 4 | 3 | 6 | 8 | 9 |  |
| 4 | 1 | 3 | 5 | 6 | 7 |
| 6 | 5 |  |  |  |  |

|  |
| --- |
| B. |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3 | 0 | 2 |  |  |  |
| 4 | 3 | 3 | 6 | 8 | 9 |
| 5 | 1 | 5 | 6 | 7 |  |
| 6 | 5 |  |  |  |  |

A.

1. Find the indicated probability

A card is drawn from a well- shuffled deck of 52 cards. Find P(drawing an ace or a 9).

1. 8
2. Identify which of these types of sampling is used: random, stratified, systematic, cluster, convenience.

A market researcher selects 500 people from each of 10 cities.

1. Random
2. Cluster
3. Convenience
4. Stratified
5. Systematic
6. The weights of the fish in a certain lake are normally distributed with a mean of 13 lb and a standard deviation of 9. If 9 fish are randomly selected, what is the probability that the mean weight will be between 10.6 and 16.6 lb? Round your answer to four decimal places.
7. 0.6730
8. 0.0968
9. 0.4032
10. 0.3270
11. The ages (in years) of the eight passengers on a bus are listed below.

4 1 23 13 27 43 37 36

Find the median age.

1. 23.5 yr
2. 23 yr
3. 27 yr
4. 25 yr
5. Determine which of the four levels of measurement (nominal, ordinal, interval, ratio) is most appropriate.

Survey responses of “good, better, best”.

1. Ordinal
2. Interval
3. Nominal
4. Ratio
5. The following frequency distribution analyzes the scores on a math test. Find the class boundaries of scores interval 95-99.

|  |  |
| --- | --- |
| Scores | Number of students |
| 40-59 | 2 |
| 60-75 | 4 |
| 76-82 | 6 |
| 83-94 | 15 |
| 95-99 | 2 |

1. 95.5, 99.5
2. 94.5, 99.5
3. 95.5, 100.5
4. 94.5, 100.5
5. Identify which of these types are selected from the Sophomore, Junior, and Senior classes with 496, 348, and 481 students respectively.
6. Systematic
7. Cluster
8. Stratified
9. Convenience
10. Random
11. Identify which of these types of sampling is used: random, stratified, systematic, cluster, convenience.

An education researcher randomly selects 48 middle schools and interviews all the teachers at each school.

1. Random
2. Cluster
3. Convenience
4. Stratified
5. Systematic
6. The highway speeds of 100 cars are summarized in the frequency distribution below. Find the mean speed.

|  |  |
| --- | --- |
| Speed (mph) | Cars |
| 30-39 | 8 |
| 40-49 | 17 |
| 60-69 | 50 |
| 60-69 | 15 |
| 70-79 | 10 |

1. 60.2 mph
2. 57.4 mph
3. 54.7 mph
4. 23.0 mph
5. A spinner has equal regions numbered 1 through 15. What is the probability that the spinner will stop on an even number or a multiple of 3?
6. 12
7. Assume that a sample is used to estimate a population proportion p. Find the margin of error E that corresponds to the given statistics and confidence level. Round the margin of error to four decimal places.

90% confidence; n = 240, x = 70

1. 0.0518
2. 0.0604
3. 0.0575
4. 0.0483
5. A musician plans to perform 9 selections. In how many ways can she arrange the musical selections?
6. 10
7. 362,880
8. 81
9. 9
10. Find the standard deviation, ơ, for the binomial distribution which has the stated values of n and p. round your answer to the nearest hundredth.

N = 42; p = 0.2

1. ơ = 5.86
2. ơ =6.71
3. ơ =0.18
4. ơ = 2.59
5. Determine which of the four level of measurement (nominal, ordinal, interval, ratio) is most appropriate.

The subjects in which college students major.

1. Ratio
2. Ordinal
3. Interval
4. Nominal