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Marks	18.00/25.00
Grade	**7.20** out of 10.00 (**72**%)

Question **1**

Correct

Mark 1.00 out of 1.00

The human resources director is studying the age of employees at two different plans. The director wants to test to see if there is a difference in the average ages of the employees at the two plans. If he obtained is the value of 1.88, what would the P value be?

- a. 0.0301
- b. 0.0602 ✔
- c. 0.1180
- d. 0.9699

Your answer is correct.

The correct answer is:
0.0602

Question 2

Correct

Mark 1.00 out of 1.00

The net weights of a sample of bottles filled by a machine manufactured by Edne, and the net weights of a sample filled by a similar machine manufactured by Orno, Inc., are (in grams):
Edne: 5, 8, 7, 6, 9, 7
Orno: 8, 10, 7, 11, 9, 12, 14, 9
Testing the claim at the 0.05 level that the mean weight of the bottles filled by the Orno machine is greater than the mean weight of the bottles filled by the Edne machine, what is the critical value? Assume equal standard deviations for both samples.

- a. 1.782 ✔
- b. 2.179
- c. 2.145
- d. 1.761

Your answer is correct.

The correct answer is:
1.782

Question 3

Correct

Mark 1.00 out of 1.00

If two samples are used in a hypothesis test for which the combined degrees of freedom is 24, which one of the following is NOT true about the two sample sizes? Assume the population standard deviations are equal.

a. Sample A = 10; sample B = 16

b. Sample A = 13; sample B = 13

c. Sample A = 11; sample B = 13 ✔

d. Cannot determine from the above information

e. Sample A = 12; sample B = 14

Your answer is correct.

The correct answer is:
Sample A = 11; sample B = 13

Question **4**

Correct

Mark 1.00 out of 1.00

Administering the same test to a group of 15 students and a second group of 15 students to see which group scores higher is an example of

a. a one sample test of means

b. a test of proportions

c. a two sample test of means ✔

d. a paired t-test

Your answer is correct.

The correct answer is:
a two sample test of means

Question 5

Correct

Mark 1.00 out of 1.00

Suppose we are testing the difference between two proportions at the 0.05 level of significance. If the computed z is -1.07, what is our decision?

a. Reject the null hypothesis

b. Take a larger sample

c. Do not reject the null hypothesis ✔

d. Reserve judgment

Your answer is correct.

The correct answer is:
Do not reject the null hypothesis

Question **6**

Correct

Mark 1.00 out of 1.00

24Using two independent samples, two population means are compared to determine if a difference exists. The population standard deviations are equal. The number in the first sample is fifteen and the number in the second sample is twelve. How many degrees of freedom are associated with the critical value?

- a. 25 ✔
- b. 26
- c. 27
- d. 24

Your answer is correct.

The correct answer is:
25

Question 7

Correct

Mark 1.00 out of 1.00

If the null hypothesis that two means are equal is true, where will 97% of the computed z-values lie between?

a. 2.07

b. 2.33

c. 2.58

d. 2.17 ✔

Your answer is correct.

The correct answer is:
2.17

Question 8

Incorrect

Mark 0.00 out of 1.00

Which of the following is an assumption of the test of the differences between parents samples?

a. The sample sizes are significantly large to allow the use of standard normal distribution

b. The samples come from populations that follow normal distribution's

c. The populations have equal standard deviation's

d. The distribution of the population of differences is a normal distribution

Your answer is incorrect.

The correct answer is:
The distribution of the population of differences is a normal distribution

Question 9

Correct

Mark 1.00 out of 1.00

Suppose you want to compare the prices at two different grocery stores. How could dependent samples be a help?

a. The same items could be sampled ✔

b. Seasonal items could be sampled at Valentine's Day at one store and Thanksgiving at the other

c. The first 10 items seen in each store could be sampled

Your answer is correct.

The correct answer is:
The same items could be sampled

Question 10

Incorrect

Mark 0.00 out of 1.00

When is it appropriate to use the paired difference t-test?

a. Two independent samples are compared

b. Four samples are compared at once

c. Two dependent samples are compared

d. Any two samples are compared ✖

Your answer is incorrect.

The correct answer is:
Two dependent samples are compared

Question 11

Incorrect

Mark 0.00 out of 1.00

If two samples, one of size 14 and the second of size 13, are used to test the difference between population means, how many degrees of freedom are used to find the critical value? Assume the population standard deviations are equal.

- a. 13
- b. 14
- c. 25
- d. 27
- e. 26 ✖

Your answer is incorrect.

The correct answer is:
25

Question 12

Correct

Mark 1.00 out of 1.00

What is the critical value for a one-tailed hypothesis test in which a null hypothesis is tested at the 5% level of significance based on two samples, both sample sizes are 13? The standard deviations for the samples are 5 and 7. Assume the population standard deviations are unequal.

a. 2.074

b. 1.711

c. 2.064

d. 1.717 ✔

Your answer is correct.

The correct answer is:
1.717

Question 13

Correct

Mark 1.00 out of 1.00

A hypothesis will test that two population means are equal. A sample of 10 with a standard deviation of 3 is selected from the first population and a sample of 15 with a standard deviation of 8 from the second population. The standard deviations are not equal. Testing the claim at the 0.01 level, what is the critical value? Assume unequal standard deviations.

- a. 2.977
- b. 2.807
- c. 2.845 ✔
- d. 2.787

Your answer is correct.

The correct answer is:
2.845

Question 14

Incorrect

Mark 0.00 out of 1.00

Which of the following is not true of two sample tests for the difference in the means using independent samples?

a. The ratio of means is calculated

b. The means from each sample are calculated

c. Example is taken from each population

Your answer is incorrect.

The correct answer is:
The ratio of means is calculated

Question 15

Correct

Mark 1.00 out of 1.00

Which of the following conditions must be met to conduct a test for the difference in two sample means?

a. Populations must be normal

b. A and B correct ✔

c. Data must be at least of interval scale

d. A, B, and C are correct

e. Variances in the two populations must be equal

Your answer is correct.

The correct answer is:
A and B correct

Question 16

Correct

Mark 1.00 out of 1.00

Which one of these is an assumption needed to use Z in a test of means?

- a. The two populations are normally distributed ✔
- b. The two samples are dependent
- c. The by model conditions are met

Your answer is correct.

The correct answer is:
The two populations are normally distributed

Question 17

Incorrect

Mark 0.00 out of 1.00

20 randomly selected statistics students were given 15 multiple-choice questions and 15 open-ended questions - all on the same material. The professor was interested in determining which type of questions the students scored higher. This experiment is an example of

a. a paired t-test

b. a two sample test of means

c. a one sample test of means

d. a test of proportions ✖

Your answer is incorrect.

The correct answer is:
a paired t-test

Question 18

Correct

Mark 1.00 out of 1.00

Which of these is NOT a correct null hypothesis?

a. $H_0: \mu_1 - \mu_2 = 0$

b. $H_0: \mu_1 = \mu_2$

c. $H_0: \mu_1 < \mu_2$ ✔

Your answer is correct.

The correct answer is:
$H_0: \mu_1 < \mu_2$

Question 19

Correct

Mark 1.00 out of 1.00

What is the meaning of the distribution of the differences between sample means?

- a. It is equal to the difference is in the means of the two distributions of sample means ✔
- b. It is equal to the difference in the variances of the two distributions of sample means
- c. It is equal to the difference in the two sample sizes

Your answer is correct.

The correct answer is:
It is equal to the difference is in the means of the two distributions of sample means

Question 20

Incorrect

Mark 0.00 out of 1.00

Of 250 adults who tried a new multi-grain cereal, "Wow!", 187 rated it excellent; of 100 children sampled, 66 rated it excellent. What test statistic should we use?

- a. Left one-tailed test ✖
- b. Right one-tailed test
- c. z-statistic
- d. Two-tailed test

Your answer is incorrect.

The correct answer is:
z-statistic

Question 21

Correct

Mark 1.00 out of 1.00

A random sample of size n1 =28 is selected from a normal population with a mean of 62 and a standard deviation of 7 . A second random sample of size n2 = 67 is taken from another normal population with mean 68 and standard deviation 9. Let X1 and X2 be two sample means. Find the probability that X2 - X1 is less than 6. Let P(Z<0)=0.5; P(Z<5)=1; P(Z<2.5)= 0.979818.

a. None of others

b. 0.474818

c. 0

d. 0.5

e. 1

Your answer is correct.

The correct answer is:
0.5

Question 22

Correct

Mark 1.00 out of 1.00

The pooled variance formula is. When do we use the pool the variance in a two sample test of means?

- a. When we think two populations have equal variances ✔
- b. When the population variances are unknown
- c. Anytime the samples have a different standard deviation's

Your answer is correct.

The correct answer is:
When we think two populations have equal variances

Question 23

Correct

Mark 1.00 out of 1.00

What is the critical value for a one-tailed hypothesis test in which a null hypothesis is tested at the 5% level of significance based on two samples, both sample sizes are 13? Assume the population standard deviations are equal

a. 1.708

b. 2.060

c. 2.064

d. 1.711 ✔

Your answer is correct.

The correct answer is:
1.711

Question 24

Correct

Mark 1.00 out of 1.00

To determine the difference, if any, between two brands of radial tires, 12 tires of each brand are tested. Assume that the life times of both brands of tires come from the same normal distribution N(m,3300^2). The distribution of the difference of the sample mean X-Y.

a. is normal with mean m and variance 1347.22

b. None of the other choice is correct

c. is normal with mean 0 and standard deviation 1347.22 ✔

d. is normal with mean 12 and variance 1347.22

e. is standard normal

Your answer is correct.

The correct answer is:
is normal with mean 0 and standard deviation 1347.22

Question 25

Incorrect

Mark 0.00 out of 1.00

Which one of these is an assumption we need to use Z in a test of means?

a. At least one population standard deviation is known

b. Both sample standard deviation's are known

c. Both population standard deviation's are known ✔

Your answer is incorrect.

The correct answer is:
Both population standard deviation's are known

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