

Examrace

Statistics MCQs – Hypothesis Testing for One Population Part 2

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21. An analyst is conducting a hypothesis test to determine if the mean time spent on investment research is different from 3 hours per day. The test is performed at the 1 % level of significance and uses a random sample of 64 portfolio managers, where the mean time spent on research is found to be 2.5 hours. The population standard deviation is 1.5 hours. What is the value of the test statistic in this case?

- a. $z = -2.67$
- b. $t = -2.67$
- c. $z = 2.67$
- d. $t = 2.67$
- e. $z = -1.60$

Answer: A

22. An analyst is conducting a hypothesis test to determine if the mean time spent on investment research is different from 3 hours per day. The test is performed at the 1 % level of significance and uses a random sample of 64 portfolio managers, where the mean time spent on research is found to be 3.5 hours. The population standard deviation is 1.5 hours. What is the value of the test statistic in this case?

- a. $z = -2.67$
- b. $t = -2.67$
- c. $z = 2.67$
- d. $t = 2.67$
- e. $z = -1.60$

Answer: C

23. An analyst is conducting a hypothesis test to determine if the mean time spent on investment research is different from 3 hours per day. The test is performed at the 1 % level of significance and uses a random sample of 64 portfolio managers, where the mean time spent on research is found to be 2.7 hours. The population standard deviation is 1.5 hours. What is the value of the test statistic in this case?

- a. $z = -2.67$
- b. $t = -2.67$
- c. $z = 2.67$
- d. $t = 2.67$
- e. $z = -1.60$

Answer: E

24. An analyst is conducting a hypothesis test to determine if the mean time spent on investment research is different from 2.5 hours per day. The test is performed at the 1 % level of significance and uses a random sample of 64 portfolio managers, where the mean time spent on research is found to be 2.7 hours. The population standard deviation is 1.5 hours. What is the value of the test statistic in this case?

- a. $z = 1.07$
- b. $t = 1.07$
- c. $z = -1.40$
- d. $t = -1.40$
- e. $z = -1.60$

Answer: A

25. An analyst is conducting a hypothesis test to determine if the mean time spent on investment research is different from 3 hours per day. The test is performed at the 1 % level of significance and uses a random sample of 49 portfolio managers, where the mean time spent on research is found to be 2.7 hours. The population standard deviation is 1.5 hours. What is the value of the test statistic in this case?

- a. $z = 1.07$
- b. $t = 1.07$
- c. $z = -1.40$
- d. $t = -1.40$
- e. $z = -1.60$

Answer: C

26. A hypothesis test is to be conducted to test whether a certain population mean is equal to or greater than 24.4. It is known that the population standard deviation is 7.6. A sample of size 60 is selected from the population and the sample mean is calculated as being 25.52. Assuming that the population follows a normal distribution, what is the value of the test statistic for this test?

- a. 1.14
- b. 0.12
- c. 2.16
- d. -0.90
- e. -1.92

Answer: A

27. A hypothesis test is to be conducted to test whether a certain population mean is equal to or greater than 24.4. It is known that the population standard deviation is 7.6. A sample of size 60 is selected from the population and the sample mean is calculated as being 24.52. Assuming that the population follows a normal distribution, what is the value of the test statistic for this test?

- a. 1.14
- b. 0.12
- c. 2.16
- d. -0.90
- e. -1.92

Answer: B

28. A hypothesis test is to be conducted to test whether a certain population mean is equal to or greater than 24.4. It is known that the population standard deviation is 7.6. A sample of size 60 is selected from the population and the sample mean is calculated as being 26.52. Assuming that the population follows a normal distribution, what is the value of the test statistic for this test?

- a. 1.14
- b. 0.12
- c. 2.16
- d. -0.90
- e. -1.92

Answer: C

29. A hypothesis test is to be conducted to test whether a certain population mean is equal to or greater than 24.4. It is known that the population standard deviation is 7.6. A sample of size 60 is selected from the population and the sample mean is calculated as being 23.52. Assuming that the population follows a normal distribution, what is the value of the test statistic for this test?

- a. 1.14
- b. 0.12
- c. 2.16
- d. -0.90
- e. -1.92

Answer: D

30. A hypothesis test is to be conducted to test whether a certain population mean is equal to or greater than 24.4. It is known that the population standard deviation is 7.6. A sample of size 60 is selected from the population and the sample mean is calculated as being 22.52. Assuming that the population follows a normal distribution, what is the value of the test statistic for this test?

- a. 1.14
- b. 0.12
- c. 2.16
- d. -0.90
- e. -1.92

Answer: E

31. A hypothesis test is conducted to test whether the mean age of clients at a certain health spa is equal to 25 or not. It is known that the population standard deviation of clients at the spa is 10.36 clients are randomly selected, and their ages recorded, with the sample mean age being 22.8. What is the test statistic of the hypothesis test in this case?

- a. $z = -1.32$
- b. $t = -1.32$
- c. $z = -2.52$
- d. $t = -2.52$
- e. $z = -0.72$

Answer: A

32. A hypothesis test is conducted to test whether the mean age of clients at a certain health spa is equal to 25 or not. It is known that the population standard deviation of clients at the spa is 10.36 clients are randomly selected, and their ages recorded, with the sample mean age being 20.8. What is the test statistic of the hypothesis test in this case?

- a. $z = -1.32$

- b. $t = -1.32$
- c. $z = -2.52$
- d. $t = -2.52$
- e. $z = -0.72$

Answer: C

33. A hypothesis test is conducted to test whether the mean age of clients at a certain health spa is equal to 25 or not. It is known that the population standard deviation of clients at the spa is 10.36 clients are randomly selected, and their ages recorded, with the sample mean age being 23.8. What is the test statistic of the hypothesis test in this case?

- a. $z = -1.32$
- b. $t = -1.32$
- c. $z = -2.52$
- d. $t = -2.52$
- e. $z = -0.72$

Answer: E

34. A hypothesis test is conducted to test whether the mean age of clients at a certain health spa is equal to 25 or not. It is known that the population standard deviation of clients at the spa is 10.36 clients are randomly selected, and their ages recorded, with the sample mean age being 27.8. What is the test statistic of the hypothesis test in this case?

- a. $z = 1.68$
- b. $t = 1.68$
- c. $z = 2.88$
- d. $t = 2.88$
- e. $z = 0.72$

Answer: A

35. A hypothesis test is conducted to test whether the mean age of clients at a certain health spa is equal to 25 or not. It is known that the population standard deviation of clients at the spa is 10.36 clients are randomly selected, and their ages recorded, with the sample mean age being 29.8. What is the test statistic of the hypothesis test in this case?

- a. $z = 1.68$
- b. $t = 1.68$
- c. $z = 2.88$

d. $t = 2.88$

e. $z = 0.72$

Answer: C

36. According to a certain TV broadcast station, the average number of violent incidents shown per episode of a TV series is 7. A researcher believes that this has increased in the last few years. A random sample of 16 recent episodes is selected which produced a sample mean of 7.5 violent incidents. Assume that the number of violent incidents follows a normal distribution and that the population standard deviation is 1.2. What would be the value of the test statistic in this case, if we were to perform a hypothesis test in order to test whether the researcher's belief is accurate or not?

a. $z = 1.67$

b. $t = 1.67$

c. $z = -1.67$

d. $t = -1.67$

e. $z = 0.67$

Answer: A

37. According to a certain TV broadcast station, the average number of violent incidents shown per episode of a TV series is 7. A researcher believes that this has increased in the last few years. A random sample of 16 recent episodes is selected which produced a sample mean of 6.5 violent incidents. Assume that the number of violent incidents follows a normal distribution and that the population standard deviation is 1.2. What would be the value of the test statistic in this case, if we were to perform a hypothesis test in order to test whether the researcher's belief is accurate or not?

a. $z = 1.67$

b. $t = 1.67$

c. $z = -1.67$

d. $t = -1.67$

e. $z = 0.67$

Answer: C

38. According to a certain TV broadcast station, the average number of violent incidents shown per episode of a TV series is 7. A researcher believes that this has increased in the last few years. A random sample of 16 recent episodes is selected which produced a sample mean of 7.2 violent incidents. Assume that the number of violent incidents follows a normal distribution and that the population standard deviation is 1.2. What would be

the value of the test statistic in this case, if we were to perform a hypothesis test in order to test whether the researcher's belief is accurate or not?

- a. $z = 1.67$
- b. $t = 1.67$
- c. $z = -1.67$
- d. $t = -1.67$
- e. $z = 0.67$

Answer: E

39. According to a certain TV broadcast station, the average number of violent incidents shown per episode of a TV series is 7. A researcher believes that this has increased in the last few years. A random sample of 16 recent episodes is selected which produced a sample mean of 7.7 violent incidents. Assume that the number of violent incidents follows a normal distribution and that the population standard deviation is 1.2. What would be the value of the test statistic in this case, if we were to perform a hypothesis test in order to test whether the researcher's belief is accurate or not?

- a. $z = 2.33$
- b. $t = 2.33$
- c. $z = -0.33$
- d. $t = -0.33$
- e. $z = 0.67$

Answer: A

40. According to a certain TV broadcast station, the average number of violent incidents shown per episode of a TV series is 7. A researcher believes that this has increased in the last few years. A random sample of 16 recent episodes is selected which produced a sample mean of 6.9 violent incidents. Assume that the number of violent incidents follows a normal distribution and that the population standard deviation is 1.2. What would be the value of the test statistic in this case, if we were to perform a hypothesis test in order to test whether the researcher's belief is accurate or not?

- a. $z = 2.33$
- b. $t = 2.33$
- c. $z = -0.33$
- d. $t = -0.33$
- e. $z = 0.67$

Answer: C

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