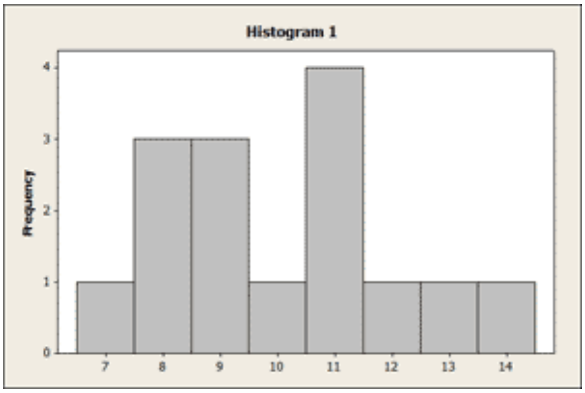
DID I GET THIS: Checking Conditions for Hypothesis Testing for the Population Mean

Use the histograms provided to answer the following questions.

QUESTION 1: The sample size is 25. Using the histogram, decide if we should proceed with a hypothesis test for the population mean and explain why or why not.



SELECT (A) Yes, the sample size is large enough.

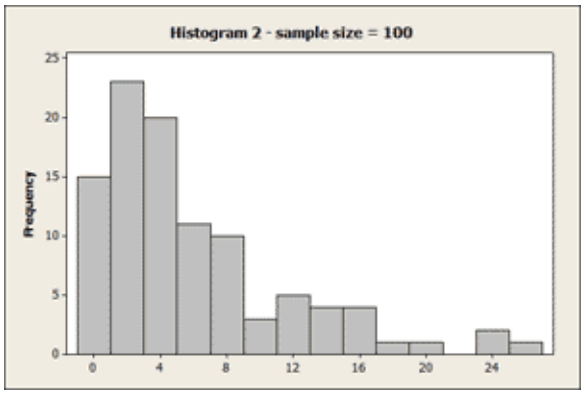
SELECT (B) Yes, although the sample size < 30, there are no outliers.

SELECT (C) Yes, although the sample size < 30, the distribution is not very far from normal in shape, with no outliers.

SELECT (D) No, the sample size is not large enough.

SELECT (E) No, the sample size is < 30 and there are outliers.

QUESTION 2:

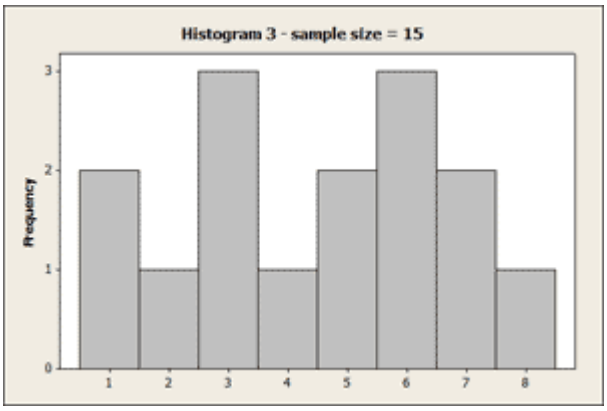


SELECT (A) Conditions are met; it is safe to proceed with the *t*-test.

SELECT (B) Conditions may not be met; conduct the *t*-test but include a disclaimer with the results.

SELECT (C) Conditions are not met; do not use the *t*-test.

QUESTION 3:

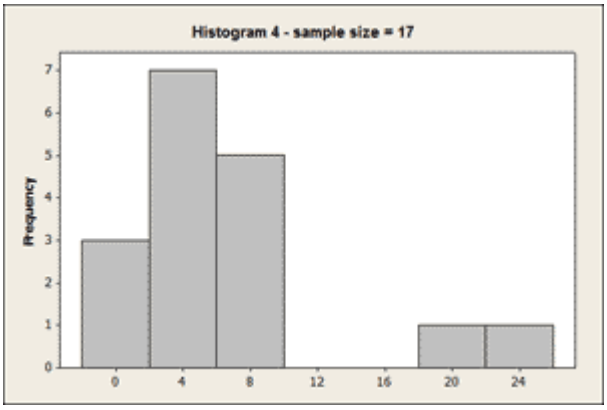


SELECT (A) Conditions are met; it is safe to proceed with the *t*-test.

SELECT (B) Conditions may not be met; conduct the *t*-test, but include a disclaimer with the results.

SELECT (C) Conditions are not met; do not use the *t*-test.

QUESTION 4:

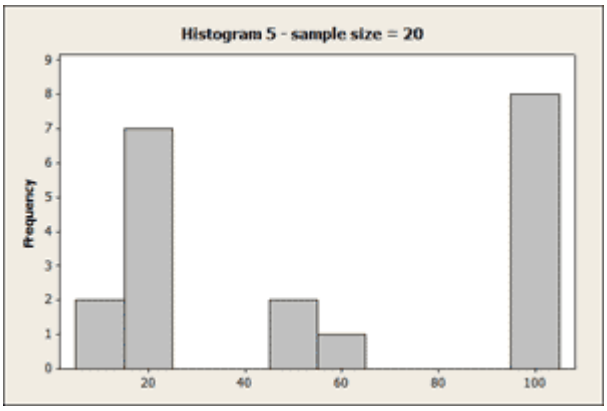


SELECT (A) Conditions are met; it is safe to proceed with the *t*-test.

SELECT (B) Conditions may not be met; conduct the *t*-test but include a disclaimer with the results.

SELECT (C) Conditions are not met; do not use the *t*-test.

QUESTION 5:

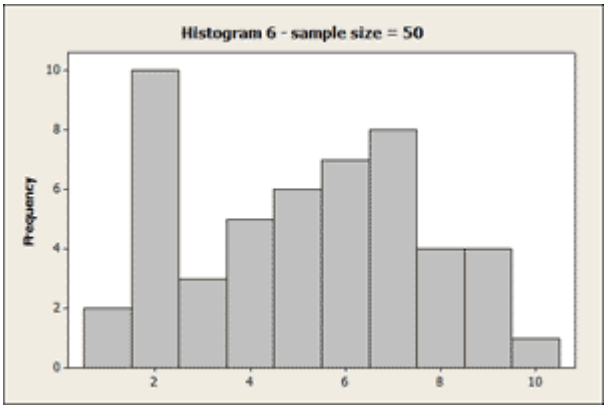


SELECT (A) Conditions are met; it is safe to proceed with the *t*-test.

SELECT (B) Conditions may not be met; conduct the *t*-test but include a disclaimer with the results.

SELECT (C) Conditions are not met; do not use the *t*-test.

QUESTION 6:

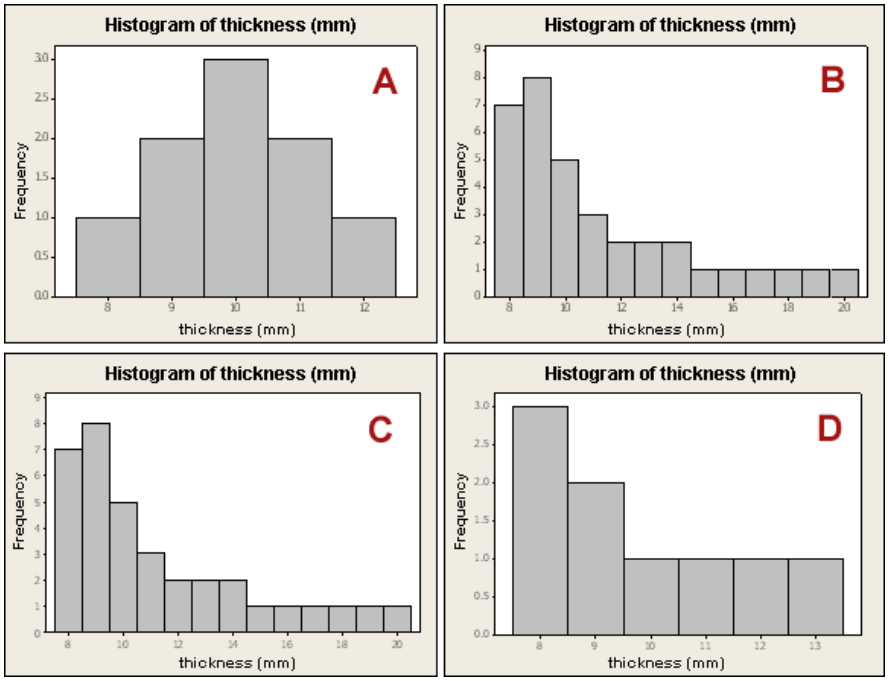


SELECT (A) Conditions are met; it is safe to proceed with the *t*-test.

SELECT (B) Conditions may not be met; conduct the *t*-test but include a disclaimer with the results.

SELECT (C) Conditions are not met; do not use the *t*-test.

QUESTION 7: Suppose that Intel is testing a brand new manufacturing process, for which prior information wasn't available. In particular, for this new process, the population distribution's shape isn't known. Use the following histograms to help you answer the question below.



To test whether or not the mean circuit board thickness is 12 mm with the new process, for which one of the following would the t-test NOT be justified?

SELECT (A) A random sample of 9 circuit boards is tested; the histogram of the data is as shown above in histogram A.

SELECT (B) A random sample of 40 circuit boards is tested; the histogram of the data is as shown above in histogram B.

SELECT (C) A random sample of 35 circuit boards is tested; the histogram of the data is as shown above in histogram C.

SELECT (D) A random sample of 9 circuit boards is tested; the histogram of the data is as shown above in histogram D.