

MTH 150



mth_150

Develop

New Castle News
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No. 1 E

No. 2 C Look at the p-value. Anything above 0.028 would allow the null hypothesis not to be rejected

Hypothesis Test: Mean-One Sample

Alternative Hypothesis:
2) Pop. Mean > Claimed Mean

Significance: 0.02

Claimed Mean: 72

Population St. Dev.: (if known)

Sample Size, n: 25

Sample Mean: 80

Sample St. Dev., s: 20

Evaluate

Plot

Alternative Hypothesis:
 $\mu > \mu(\text{hyp})$

t Test
Test Statistic, t: 2.0000
Critical t: 2.1715
P-Value: 0.0285

96% Confidence interval:
71.31381 < μ < 88.68619

- No. 3 E** Look at the p-value. Anything above 0.3178 would allow the null hypothesis not to be rejected

Hypothesis Test: Mean-One Sample

Alternative Hypothesis:
2) Pop. Mean > Claimed Mean

Significance: 0.05
Claimed Mean: 27
Population St. Dev.:
(if known)
Sample Size, n: 6
Sample Mean: 27.5
Sample St. Dev., s: 2.43

Evaluate
Plot

Alternative Hypothesis:
 $\mu > \mu(\text{hyp})$
t Test
Test Statistic, t: 0.5040
Critical t: 2.0150
P-Value: 0.3178
90% Confidence interval:
 $25.50099 < \mu < 29.49901$

- No. 4** **C** Look at the p-value. Anything above 0.0228 would allow the null hypothesis not to be rejected

Hypothesis Test: Proportion One Sample

Alternative Hypothesis:

2) Pop. Proportion > Claimed Proportion

Significance: 0.05

Claimed Proportion: 0.20

Sample Size, n: 100

Num Successes, x: 28

Evaluate

Plot

Alternative Hypothesis:
p > p(hyp)

Sample proportion: 0.28
Test Statistic, z: 2.0000
Critical z: 1.6449
P-Value: 0.0228

90% Confidence interval:
0.2061463 < p < 0.3538537

No. 5 $r_2 < r_1 < r_3$ r_2 is negative, r_1 is zero and r_3 is positive

No. 6 The p-value of $0.06 > 0.05$, so we fail to reject H_0 and conclude there is not sufficient evidence to suggest that there was a change in the dividing time of the cells

Hypothesis Test: Mean-One Sample

Alternative Hypothesis:
1) Pop. Mean not = Claimed Mean

Significance: 0.05
Claimed Mean: 30
Population St. Dev.: (if known) 3.5
Sample Size, n: 16
Sample Mean: 31.6
Sample St. Dev., s:

Evaluate
Plot

Alternative Hypothesis:
 μ not equal to $\mu(\text{hyp})$

z Test
Test Statistic, z: 1.8286
Critical z: ± 1.9600
P-Value: 0.0675

95% Confidence interval:
 $29.88503 < \mu < 33.31497$

- No. 7** The p-value of $0.0042 < 0.05$, so reject H_0 that there is no change from the mean of 50 agree that there seems to be sufficient evidence to suggest that the mean is greater than 50

Hypothesis Test: Mean-One Sample

Alternative Hypothesis:
2) Pop. Mean > Claimed Mean

Significance: 0.05

Claimed Mean: 50

Population St. Dev.:
(if known)

Sample Size, n: 25

Sample Mean: 52.3

Sample St. Dev., s: 4

Evaluate

Plot

Alternative Hypothesis:
 $\mu > \mu(\text{hyp})$

t Test
Test Statistic, t: 2.8750
Critical t: 1.7109
P-Value: 0.0042

90% Confidence interval:
 $50.9313 < \mu < 53.6687$

No. 8 The p-value of $0.000 < 0.05$, so, yes we can reject H_0

Hypothesis Test: Mean-One Sample

Alternative Hypothesis:

2) Pop. Mean > Claimed Mean

Significance:

0.05

Alternative Hypothesis:

$\mu > \mu(\text{hyp})$

Claimed Mean:

100

z Test

Test Statistic, z: 27.7128

Population St. Dev.:
(if known)

15

Critical z: 1.6449

P-Value: 0.0000

Sample Size, n:

1200

90% Confidence interval:

$111.2878 < \mu < 112.7122$

Sample Mean:

112

Sample St. Dev., s:

Evaluate

Plot

- No. 9** The p-value of $0.0548 > 0.05$, so we fail to reject H_0 and conclude there is not sufficient evidence to suggest that the new seed is better.

Hypothesis Test: Mean-One Sample

Alternative Hypothesis:
2) Pop. Mean > Claimed Mean

Significance: 0.05
Claimed Mean: 150
Population St. Dev.: (if known) 20
Sample Size, n: 16
Sample Mean: 158
Sample St. Dev., s:

Evaluate
Plot

Alternative Hypothesis:
 $\mu > \mu(\text{hyp})$

z Test
Test Statistic, z: 1.6000
Critical z: 1.6449
P-Value: 0.0548

90% Confidence interval:
 $149.7757 < \mu < 166.2243$

No. 10 The p-value of $0.0089 < 0.03$ so reject H_0 and conclude that there seems to be sufficient evidence to suggest that the drug company's claim is valid

Hypothesis Test: Proportion One Sample

Alternative Hypothesis:
2) Pop. Proportion > Claimed Proportion

Significance: 0.03
Claimed Proportion: 0.80
Sample Size, n: 160
Num Successes, x: 140

Evaluate
Plot

Alternative Hypothesis:
 $p > p(\text{hyp})$
Sample proportion: 0.875
Test Statistic, z: 2.3717
Critical z: 1.8808
P-Value: 0.0089
94% Confidence interval:
 $0.8258255 < p < 0.9241745$