

Ecalc

NOTES

$$n = 1$$

$$102$$

$$.1275$$

$$75)$$

$$\frac{.015}{.000} = p$$

$$st(x) = .95$$

$$95$$

$$\pm (-$$

$$=$$

$$10000$$

$$11$$

$$100$$

$$100$$

$$100$$

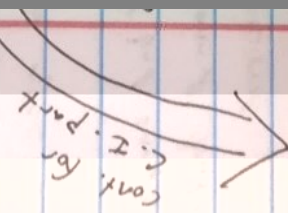
$$100$$

$$100$$

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$$100$$



4

Sta + 3.2

$$\pi \neq .15$$

$$\alpha$$

extreme

side

$$Z = \frac{.1275 - .15}{\sqrt{\frac{.15(1-.15)}{102}}} = -1.47$$

$$P(Z \leq -1.47) = .0719$$

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dist: $(x; \alpha, \beta) = F\left(\frac{x}{\beta}; \alpha\right)$

$n = df = n - 1$

Normal dist. pop

area to right

$1 - \alpha$

pop.

above

corresponding

$\alpha = 0.05$

$35 = 3.6024$

28.9765

1.898

5.383

$n(1-\alpha)$

$N(n\pi, \sqrt{\frac{\pi(1-\pi)}{n}})$

population proportion

$(Z_{\alpha/2}) \left(\sqrt{\frac{\pi(1-\pi)}{n}} \right)$

$\frac{n\pi \pm 1.96 \sqrt{\frac{\pi(1-\pi)}{n}}}{n}$

ADOTX 5-16NOR

44. n

σ

σ

if

$\hat{\pi} = \frac{\sum x}{n}$

Proportions:

Large sample test

Null hyp: $H_0: \pi = \pi_0$

Test statistic: $Z = \frac{\hat{\pi} - \pi_0}{\sqrt{\pi_0(1-\pi_0)}/n}$

$H_a: \pi > \pi_0$

value \rightarrow is to right of Z

\rightarrow is to left of Z

$H_a: \pi \neq \pi_0$ \rightarrow is 2 (near to right of $|Z|$)

$p = 350$ $n = 150$

$n \geq 30$

$\alpha = 0.05$

$n(1-\pi_0) \geq 15$

extreme

$2P(\hat{\pi} \geq .54) = 2P(Z \geq \frac{.54 - .5}{\sqrt{.5(.5)/150}})$

$= 2P(Z \geq \frac{.04}{\sqrt{.25/150}})$

$= 2P(Z \geq \frac{.04}{.0408})$

$= 2P(Z \geq 1.22)$

$= 2(.1123)$

$= .2246$

Since $p < .05$, we reject H_0

Let there exist π and π_0

between π and π_0

so reject H_0 in favor of H_a

as well. The percentage of the population is 54%

significantly different from 50%

7.

a) $\chi = 0$.
(rejection)

$\frac{(12)}{(02)}$

$-P(Z$

ins
and

it α

reject

it

max

at

we

to

~~123~~

$=$

$(1-\alpha)$

$)^8$

$P($

$\frac{-0.017}{\sqrt{0}}$

$$\frac{0.01333}{\sqrt{(0.01333 \times (1 - 0.01333) / 500)}}$$

7495)

reject H_0

reject (rejection)

had sample

and truth,

emp.

5)