

陳凱 2016

No.

Date

1.  $n=25, \mu=70, \sigma=8$

(a)  $\alpha=0.05, \Sigma=73$

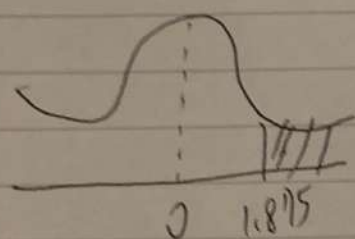
$H_0=70$

$H_1 > 70$

$z = \frac{73-70}{8/\sqrt{25}} = 1.875$

$P(Z > 1.875 | \mu=70) = 0.03096 < 0.05$

$H_0$  拒絕, 接受  $H_1$



(b)  $\Sigma=9$

$z = \frac{73-70}{9/\sqrt{5}} = \frac{3}{9/\sqrt{5}} = 1.6667$

$P=0.0418, P < 0.05$

不可

2. (a)  $n=100, \hat{p} = \frac{x}{100n}$

$E(\hat{p}) = E\left(\frac{x}{n}\right) = \frac{1}{n} E(x) = \frac{1}{n} \cdot n \cdot p = p$

(b)  $Var(\hat{p}) = Var\left(\frac{x}{n}\right) = \frac{1}{n} p \cdot q = \frac{1}{100} p \cdot q$

$Std(\hat{p}) = \frac{1}{10} \sqrt{pq}$

(c) (52.4%, 69.6%)

(d)  $0.6 - 1.645 \left( \frac{\sqrt{0.6 \cdot 0.4}}{100} \right) = 0.529$

$0.6 + 1.645 \left( \frac{\sqrt{0.6 \cdot 0.4}}{100} \right) = 0.68$

(d) (52%, 68%)

(c)  $0.6 - 1.96 \left( \frac{\sqrt{0.6 \cdot 0.4}}{100} \right)$

$= 0.504$   
 $= 50.4\%$

$0.6 + 1.96 \left( \frac{\sqrt{0.6 \cdot 0.4}}{100} \right)$

$= 0.68 = 68\%$

White