7.3

(1) $H_0: \mu = 30$ (?) $H_1: \mu \neq 30$

(2) $\alpha = 0.05$

(3) 拒絕域 $C = \{|z| > z_{0.025}\}$

$= \{|z| > 1.96\}$

(4) $z = \dfrac{\bar{x} - \mu_0}{\frac{s}{\sqrt{n}}} = \dfrac{30.563 - 30}{\frac{2.354}{\sqrt{64}}} = 1.913$

7.4 P-值 $= 2P(z > 1.913)$

$\cong 2P(z > 1.91)$

$= 2 \times 0.0281$

$= 0.0562 > \alpha$

故 z 暫不能拒絕虛無假設

7.5 (1) $H_0: \mu \leq 55$, $H_1: \mu > 55$

(2) $\alpha = 0.05$

(3) 拒絕域 $C = \{T > t_{0.05}(15)\}$

$= \{T > 1.7533\}$

(4) $T = \dfrac{\bar{x} - \mu_0}{\frac{s}{\sqrt{n}}} = \dfrac{59.312 - 55}{\frac{13.169}{\sqrt{16}}} = 1.308$

P-值 $= P(T > 1.308)$

$\cong P(T > 1.31)$