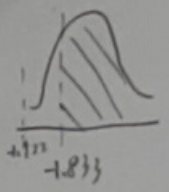
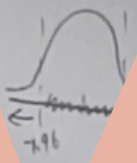
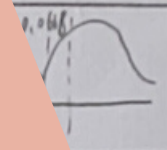
1. H_0 : m = 198
H_1 : m ≠ 198
$\alpha = 0.05$

$t_{0.05}(9) = 1.833$ $\quad \frac{190-198}{\frac{13.16}{\sqrt{10}}} = -1.92$ ⇒ 拒絕 H_0
⇒ 合格

2. H_0 : m = 4
H_1 : m ≠ 4
$\alpha = 0.05$ $\quad \frac{\alpha}{2} = 0.025$
n = 100
$z_{0.025} = 1.96$

=2.5 ⇒ 拒絕 H_0
⇒ 規格改變

3. H_0 : m ≥ 70
H_1 : m < 70
$\alpha = 0.03$
n = 36
$z_{0.03} = -1.88$
$\frac{68.5-70}{\frac{6}{\sqrt{36}}}$ ⇒ 接受 H_0
⇒ 成績沒有加薪

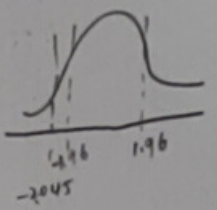
4. P(z
=
>0.03 ⇒ 接受 H


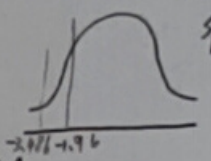
5. H 1.5
> 1.5
α
$t_{0.05}(4) = 2.132$
$\frac{1.52-1.5}{\frac{0.019}{\sqrt{5}}}$ = 2
⇒ 拒
⇒ 農藥超標不合格

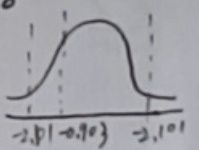
6. $\bar{x} = 4.65$ $\quad s = 1.26$ week 12.

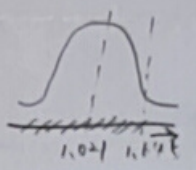
(1) n = 40 $\quad \alpha = 0.05$
$H_0 : \mu = 4.3$
$H_1 : \mu \neq 4.3$
$z_{0.025} = 1.96$
$\frac{4.65-4.3}{\frac{1.26}{\sqrt{40}}} = 1.757$
⇒ 不拒絕 H_0

(2) n = 80, $\alpha = 0.05$
$H_0 : \mu = 4.3$
$H_1 : \mu \neq 4.3$
$z_{0.025} = 1.96$
$\frac{4.65-4.3}{\frac{1.26}{\sqrt{80}}} = 2.485$
⇒ 拒絕 H_0

7. $H_0 = \mu_1 = \mu_2$
$H_1 = \mu_1 \neq \mu_2$
$z_{0.025} = 1.96$

$\frac{(\bar{x}-\bar{y})-0}{\sqrt{\frac{s_1^2}{n_1}+\frac{s_2^2}{n_2}}} = \frac{38.3-40.1}{\sqrt{\frac{40}{100}+\frac{30}{80}}}$
$= -2.045$
⇒ 拒絕 H_0

8. $H_0 : \mu_1 = \mu_2$
$H_1 : \mu_1 \neq \mu_2$

$sp = \sqrt{\frac{63 \times 3.2^2 + 80 \times 3.6^2}{143}} = 3.430$
$\frac{(\bar{x}-\bar{y})-0}{sp\sqrt{\frac{1}{n_1}+\frac{1}{n_2}}} = \frac{32-34}{3.43\sqrt{\frac{1}{64}+\frac{1}{81}}} = -3.486$ ⇒ 拒絕 H_0

9. $t_{0.025}(18) = 2.101$
$H_0 : \mu_1 = \mu_2$
$H_1 : \mu_1 \neq \mu_2$
$sp = \sqrt{\frac{9 \times (4.2065)^2 + 9 \times 6.0525^2}{18}} = 5.693$
$\frac{(\bar{x}-\bar{y})-0}{sp\sqrt{\frac{1}{n_1}+\frac{1}{n_2}}} = \frac{82.6-84.9}{5.693\sqrt{\frac{1}{10}+\frac{1}{10}}} = -0.903$

⇒ 接受 H_0.

10. $z_{0.05} = 1.645$
$H_0 = p \leq 0.4$ $\quad H_1 = p > 0.4$

$z = \frac{\hat{p}-p_0}{\sqrt{\frac{p_0(1-p_0)}{n}}} = \frac{0.45-0.4}{\sqrt{\frac{0.4 \times 0.6}{100}}} = 1.021$
⇒ 接受 H_0