

$$H_0: m \geq 198$$

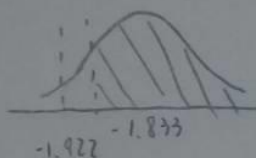
$$H_1: m < 198$$

$$\alpha = 0.05$$

$$t_{0.05}(9) = -1.833$$

拒絕 $H_0 \Rightarrow$ 合格 #

$$\frac{190 - 198}{\frac{13.16}{\sqrt{10}}} = -1.922$$



2.

$$H_0: m = 420$$

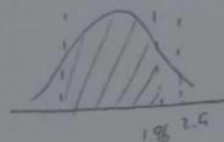
$$H_1: m \neq 420$$

$$\alpha = 0.05, \frac{\alpha}{2} = 0.025$$

$$Z_{0.025} = 1.96$$

拒絕 $H_0 \Rightarrow$ 規格改變 #

$$\frac{423 - 420}{\frac{12}{\sqrt{100}}} = 2.5$$



3.

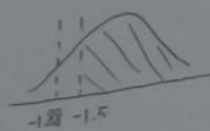
$$H_0: m \geq 70$$

$$H_1: m < 70$$

$$Z_{0.03} = -1.88$$

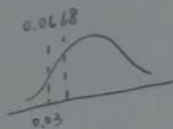
不拒絕 $H_0 \Rightarrow$ 成績沒有不如去年 #

$$\frac{68.5 - 70}{\frac{6}{\sqrt{36}}} = -1.5$$



$$P(Z < -1.5) = 0.0668 > 0.03$$

\Rightarrow 不拒絕 H_0 #



$$H_0: m \leq 1.5$$

$$H_1: m > 1.5$$

$$t_{0.05}(4) = 2.132$$

拒絕 $H_0 \Rightarrow$ 超標, 不合格 #

$$\frac{1.92 - 1.5}{\frac{0.019}{\sqrt{5}}} = 2.344$$

