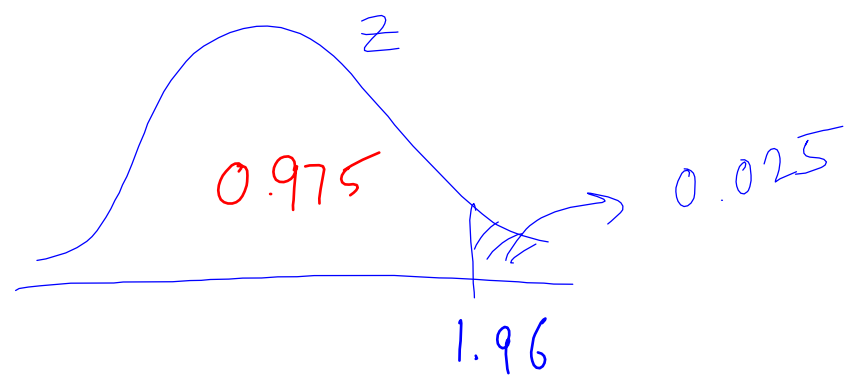
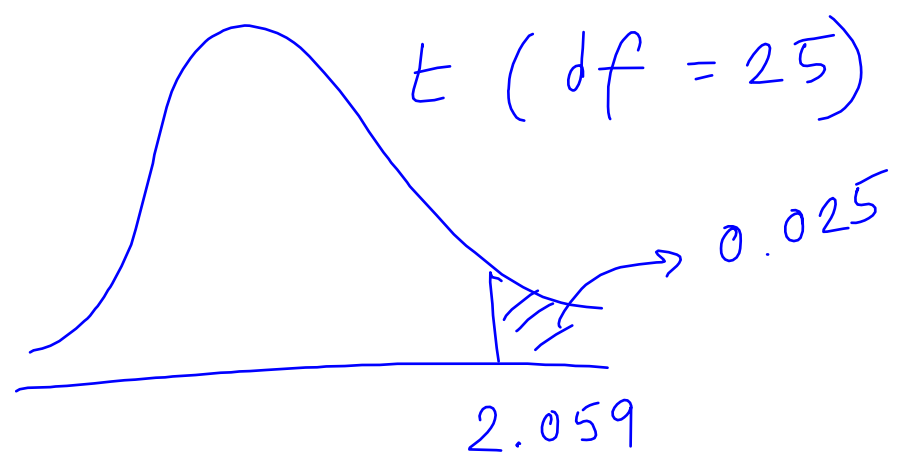


ch. 4 (cont.)



$$df = 20$$

$$t (df = 20)$$

$$\alpha = 0.1$$

$$0.05$$

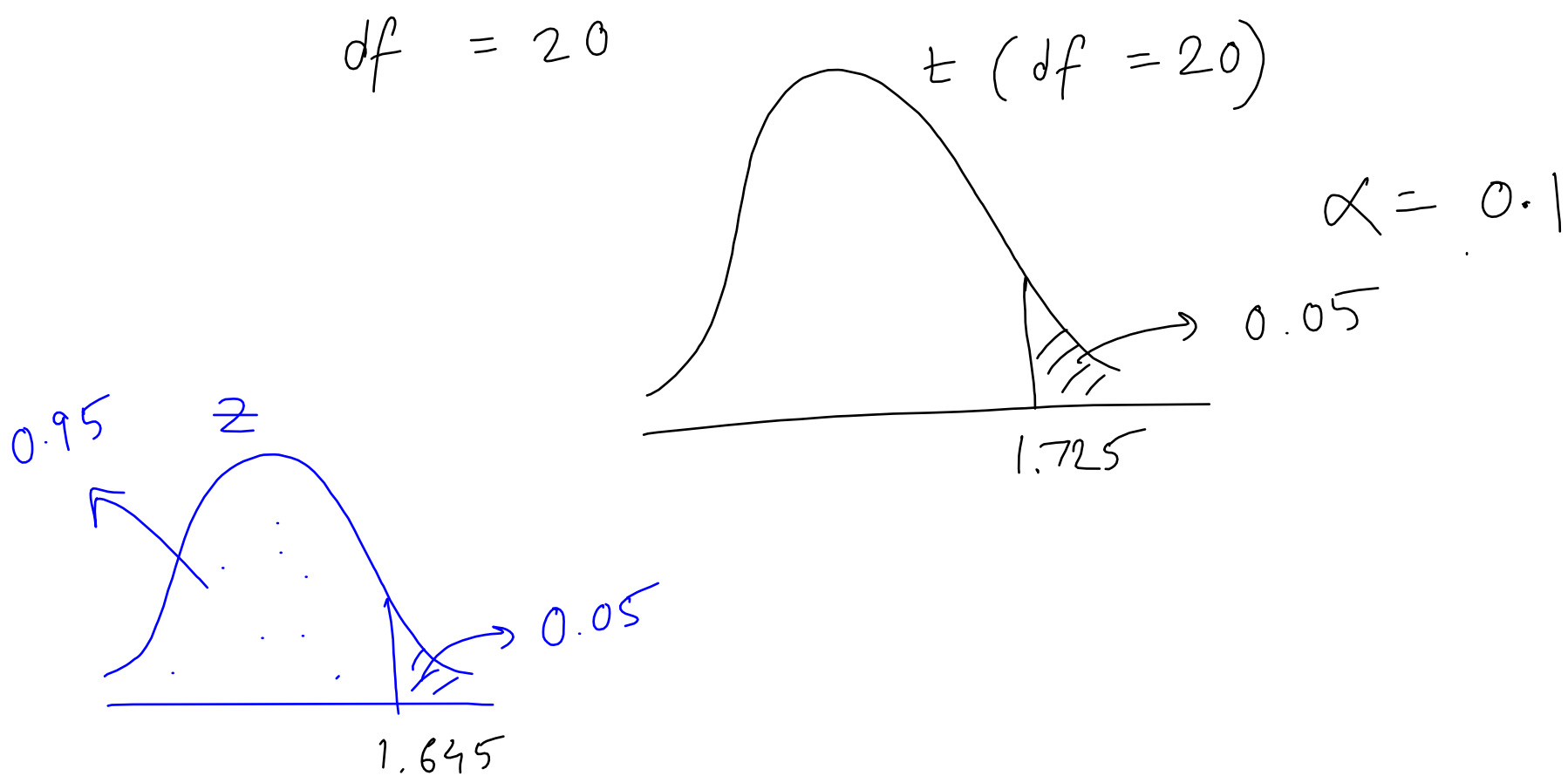
$$1.725$$

$$0.95$$

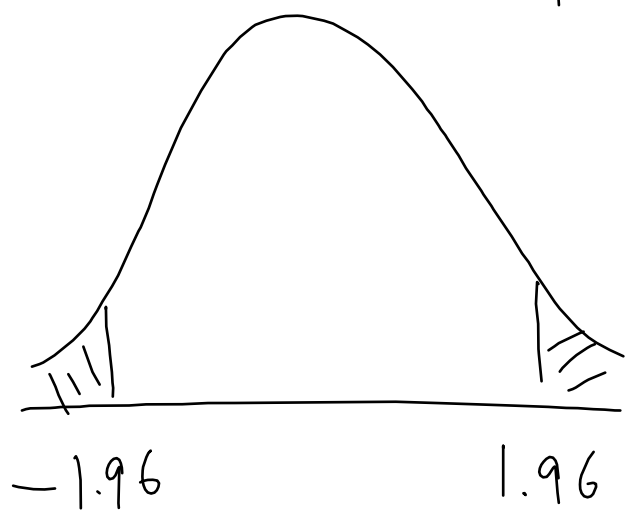
$$z$$

$$0.05$$

$$1.645$$



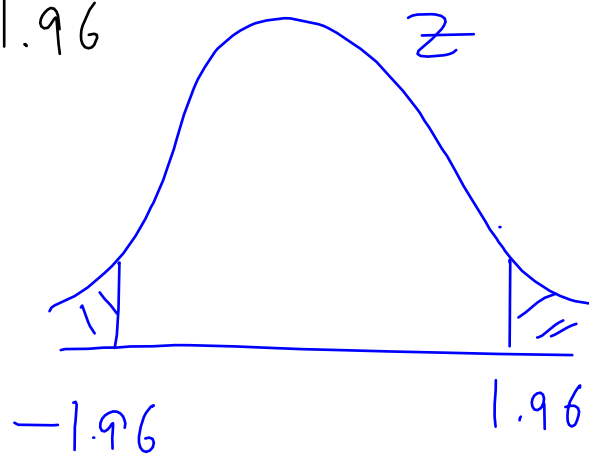
$t \ (df = 25)$



area



$$= 0.061$$



$$\square = 0.05$$

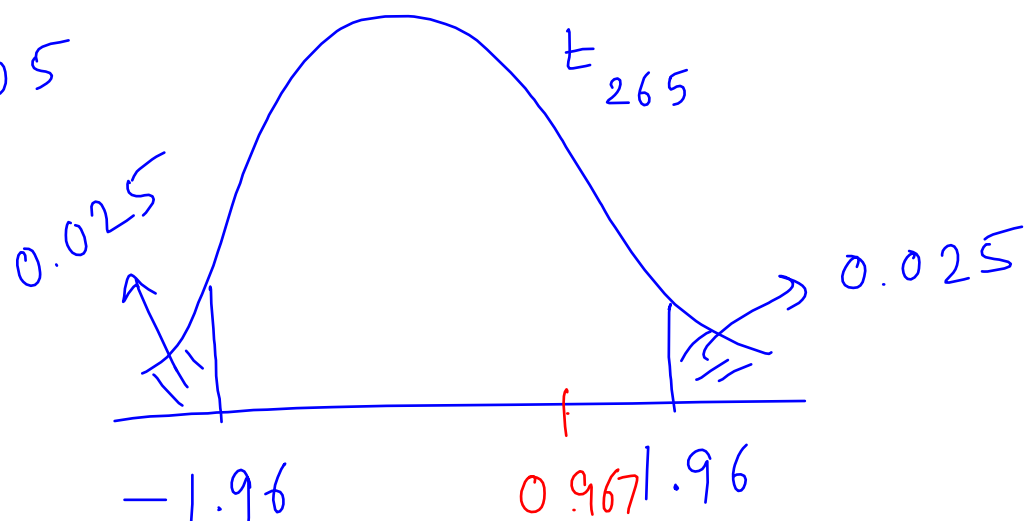
NBASAL

$$H_0 : \beta_1 = 70$$

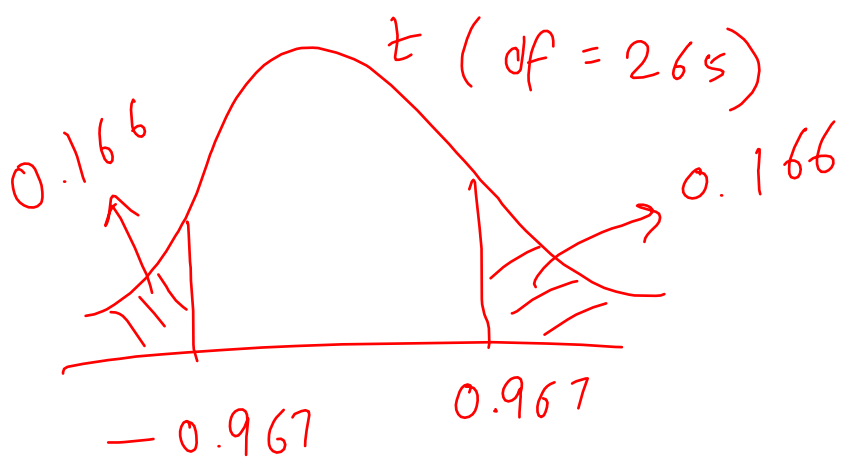
$$H_1 : \beta_1 \neq 70$$

$$t_{test} = \frac{81.194 - 70}{11.569} = 0.967$$

$$\alpha = 0.05$$



Fail to rej. H_0 $\rightarrow t_{test} < 1.96$
 $\searrow$ 70 is in 95% conf. int.



$$\boxed{\text{shaded area}} = 2 \times 0.166 = 0.332$$

p-value $> \alpha$
 $\Rightarrow$ Fail to rej. H_0 .

Single Hypothesis - Multiple Parameters

$$H_0 : \beta_j = \beta_l$$

$$H_1 : \beta_j \neq \beta_l$$

$$t_{\text{test}} = \frac{\hat{\beta}_j - \hat{\beta}_l}{\text{se}(\hat{\beta}_j - \hat{\beta}_l)}$$

NBASAL : $H_0 : \beta_1 = \beta_2$

$$H_1 : \beta_1 \neq \beta_2$$

$$p\text{-value} = 0.7$$

$\Rightarrow$ fail to reject H_0

Multiple Hypothesis

$$H_0 : \beta_j = 0, \beta_l = 0$$

$$H_1 : \text{at least } \beta_j \text{ or } \beta_l \neq 0$$

restricted model : H_0 imposed by omitting x_j & x_l .

unrestricted : H_0 not imposed

Test statistic $\rightarrow$ based on comparing fit across models