

Power of test

Note Title

10/10/2008

The claim : $\mu > 2.0$

the opposite ↙

$H_0: \mu \leq 2.0$

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$H_A: \mu > 2.0$

Reject H_0 .

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H_0 is true

Type I error

Do not reject H_0 .

H_0 is false

Power of test
($1 - \beta$)

Type II error

β

α = the probability of type I error
= 0.05, 0.01 (or 0.1)
significance level

(d) Describe what is the Type II error in the context of this study.

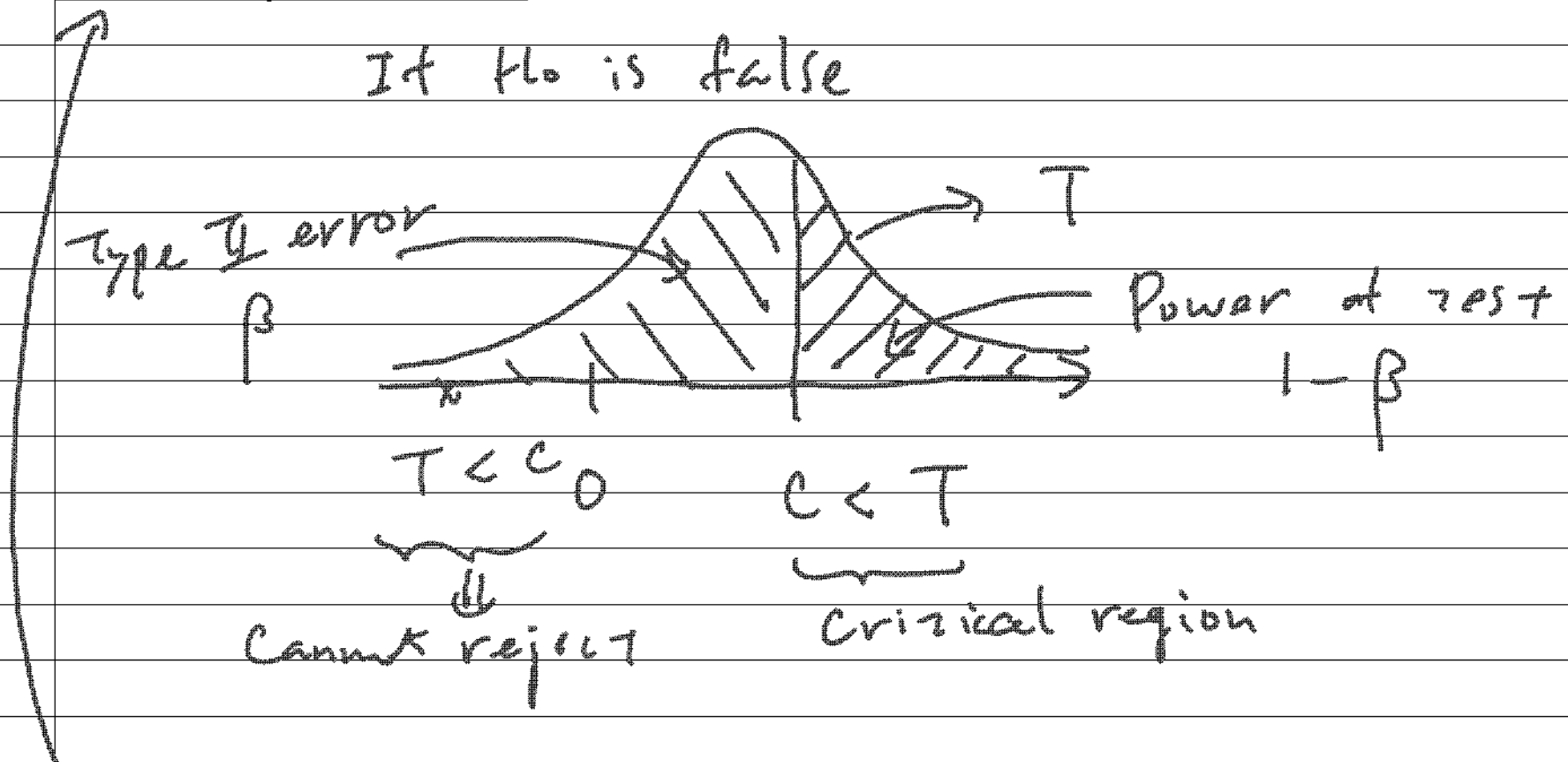
We fail to see that the mean increase is more than 2 minutes.

(e) What is the probability of Type II error if the actual value of mean increase for the new treatment is 2.1?

The probability of type II error is $1 - 0.2271677$, and it is about 0.773

Calculate power of test

Calculate sample size



(1) We need the estimate of μ and σ

(2) Null hypothesis H_0 and significance level α

(3) Sample size n