

# Econometrics I, quiz 16

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1. This is a 20-minute quiz
  2. **NO** point in the exam can you discuss the questions/answers with any of your colleagues.
  3. When a multiple choice is present, circle the number indicating your choice of the answer.
  4. Good luck. :-)
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- **Q1** : The following is the regression results for a Cobb-Douglas production function. All the variables are in logs.

	Estimate	Std. Err.	t-stats
Intercept	1.1710	0.3268	3.583
$\log L$	0.6030	0.1260	4.787
$\log K$	0.3757	0.0853	4.402
Number of obs: 27			
5% critical F(1,24): 4.26			
$R^2$ : 0.94346			
Adj $R^2$ : 0.93875			
Std. Err of regression: 0.1884			
Sum of squared residuals: 0.85163			
Estimated estimator covariance matrix			
	Intercept	$\log L$	$\log K$
Intercept	0.1068		
$\log L$	-0.01984	0.01586	
$\log K$	0.00189	-0.00961	0.00728

1. Write out the Cobb-Douglas equation (in non-log terms) using the estimated parameters. **(1 points)**

2. What is  $\sigma_{\log \text{Output}}^2$ ? **(1 points)**

3. Test  $H_0 : \beta_2 = 1, H_A : \beta_2 \neq 1$  Do you accept or reject the  $H_0$ ? **(3 points)**

4. Is the data in this sample consistent with the hypothesis of a constant returns to scale production function?

(a) State  $H_0, H_A$  as a mathematical equation. **(1 point)**

(b) Do the test, stating the statistic and the critical value used. State whether the  $H_0$  is rejected by this sample. **(4 points)**