

Department of Mathematics
MTL 390 (Sampling Distribution)
Tutorial Sheet No. 6
(Answers to Selected Problems)

2. Test statistic value, $T_0 = 1.02$, Reject H_0 if T_0 does not belongs to $(-t_{n-2,0.05/2}, t_{n-2,0.05/2}) = (-2.06, 2.06)$.
Decision: Do not reject.
3. $Z_0 = -2.755$. Decision: Do not reject for both $\alpha = 5\%$ and 95% .
4. $T_0 = 2.7746$, $t_{6,.025} = 2.447$. Decision: Reject H_0 .
5. $\tau = .5111$
6. $\rho(A, B) = -.02121$, $\rho(B, C) = -.29697$, $\rho(A, C) = .6363$.
7. $r = -.85664$. Decision: Reject H_0 .
8. (b) $\rho = 4/5$
9. $\rho = 0$, the least square regression lines are $x = 2$ and $y = 1.8$. Since the lines are parallel to x and y axis respectively, therefore, they are perpendicular.
10. (i) $y = 2.458 + .388x$
(iii) $\hat{\alpha} = 2.458$, $\hat{\beta} = .388$, $\hat{\sigma}^2 = .319$
(iv) $\alpha \in (1.1553, 3.7607)$
 $\beta \in (.0135, .7625)$
11. No.