請將所有答案一律寫在答題紙上（否則不予計分），不用抄題目，但要註明題號.

一. 選擇題 (25%, 每題 5 分):

1. (　) Suppose a measure of political conservatism is administered to representative samples of persons of ages 15, 20, 30, 45, 60 and that the respective means were 60, 85, 80, 70, and 65. The correlation between age and political conservation is:
(1) 1.0, (2) –1.0, (3) linear, (4) curvilinear.

2. (　) If variable Y is predicated from variable X and the resulting residuals are correlated with variable Z, this correlation is a:
(1) part correlation, (2) partial correlation, (3) multiple regression, (4) stepwise multiple regression.

3. (　) If H_o is false and we fail to reject it, we have made:
(1) A type-I error,
(2) A type-II error,
(3) A type-I and a type-II error,
(4) No error.

4. (　) If H_o is false and α is increased (relaxed) from .01 to .05, other things remaining constant, power will:
(1) decrease, (2) remain constant, (3) increase, (4) unknown.

5. (　) For testing H_o: $\mu_1 = \mu_2$, in which of these situations can the assumption of homogeneity of variance be safely ignored:
(1) $n_1 = n_2 = 10$,
(2) $n_1 = 100$, $n_2 = 200$,
(3) $n_1 = 5$, $n_2 = 15$,
(4) $n_1 = 50$, $n_2 = 50$.

二. 填充題 (25%, 每一答案 5 分):

1. An experiment results in one of five simple events, with the following probablities: $P(E_1) = .22$, $P(E_2) = .31$, $P(E_3) = .15$, $P(E_4) = .22$, and $P(E_5) = .10$. The following events have been defined:
$A = \{E_1, E_3\}$, $B = \{E_2, E_3, E_4\}$, $C = \{E_1, E_5\}$
Please the probability $P(A \cap B)$? and $P(C \mid B)$?

2. If n is increased from 25 to 100, the value of the standard error of the mean, $\sigma_{\bar{X}}$

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will be reduced from 3 to _____.

3. What is the probability of correctly guessing ten of ten true-false questions?

4. Suppose $\sigma_{\bar{p}} = .05$ with n = 100. If n is reduced to 25, what will be the value of $\sigma_{\bar{p}}$?

三. 計算題 (50%, 每題 25%).

1. The effect of an all-day (E) versus the conventional (C) half-day kindergarten on subsequent reading performance was evaluated by comparing mean scores of the forty-one E students and the thirty-five C students on a standardized reading test administered at the end of grade two. The results are given:

	E	C
$\bar{X}_j$	64.53	63.56
s_j	11.1	10.4
n_j	41	35

Please perform a t-test to evaluate H_o: $\mu_E = \mu_C$ at $\alpha = .05$ ($_{.975}t_{74} = 1.99$).

2. An insurance company that sells hospitalization policies wants to know whether there is a relationship between the amount of hospitalization coverage a person has and the length of stay in the hospital. Records are selected at random at a large hospital by hospital personnel, and the information on length of stay and hospitalization coverage is given to the insurance company. The results are summarized in the table. Can you conclude that there is a relationship between length of stay and hospitalization coverage? ($\alpha = .05$, $_{.95}\chi^2_9 = 3.33$)

		Length of stay (days)			
		5 or under	6 – 10	11 – 15	Over 15
Hospitalization of coverage of costs	Under 25%	26	30	6	5
	25-50%	21	30	11	7
	51-75%	25	25	45	9
	Over 75%	11	32	17	11