60080079 Introduction to Statistical Methods
Semester 2 2023-2024
Homework Assignment 10

1. Write your answer as a two-digit number: 24

2. Write your answer as a four-digit number: 2347

3. Write your answer as a two-digit number: 13

4. Write your answer as a single-digit number: 1

5. Write your answer as a four-digit number: 1365

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	30990.694	4	7747.674	181.198	.000[b]
	Residual	25441.039	595	42.758		
	Total	56431.733	599			

a. Dependent Variable: Science score

b. Predictors: (Constant), Civics score, Math score, Writing score, Reading score

6. Write your answer as a single-digit number: 5

Correlations

		Science score	Reading score	Writing score	Math score	Civics score
Science score	Pearson Correlation	1	.691**	.569**	.650**	.517**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	600	600	600	600	600

Testing whether the $\beta = 0$ in a simple linear regression model is equivalent to testing whether $\rho = 0$. As we can see from above, all predictors are significantly correlated with the science score.

7. Write your answer as a single-digit number: 3

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.092	1.723		4.695	.000
	Reading score	.378	.040	.393	9.454	.000
	Writing score	.101	.040	.102	2.564	.011
	Math score	.285	.042	.277	6.839	.000
	Civics score	.076	.036	.078	2.123	.034

a. Dependent Variable: Science score

8. Write your answer as a four-digit number: 3131

9. Write your answer as a single-digit number: 3

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.741[a]	.549	.546	6.53896

a. Predictors: (Constant), Civics score, Math score, Writing score, Reading score

10. Write your answer as a single-digit number: 3