Required:

1. Explain the difference between the overhead rate originally estimated by Dana and the overhead rate developed from the regression method.
2. Using data from the regression analysis, develop the following cost estimates per person for a cocktail party.
   a. Variable cost per person
   b. Absorption (full) cost per person (includes both variable and fixed cost per person)
   Assume that the level of activity remains within the relevant range.
3. Dana has been asked to prepare a bid for a 250-person cocktail party to be given next month. Determine the minimum bid price that Dana should be willing to submit.
4. What other factors should Dana consider in developing the bid price for the cocktail party?

(CMA adapted)

Problem 6–46
Computing Least-Squares Regression Estimates; Airport Costs (Appendix)
(LO 6-1, 6-2, 6-5, 6-8)

2(c). Monthly fixed cost: $11,796
5(c). R^2: .58 (rounded)

Jefferson County Airport handles several daily commuter flights and many private flights. The coun budget officer has compiled the following data regarding airport costs and activity over the past year.

Month	Airport Costs	Flights Originating at Jefferson County Airport
January	$20,000	1,200
February	19,000	1,000
March	18,000	900
April	19,000	1,400
May	17,000	800
June	20,000	1,100
July	21,000	1,500
August	17,000	900
September	21,000	1,200
October	19,000	1,000
November	24,000	1,400
December	18,000	1,100

Required:

1. Draw a scatter diagram of the airport costs shown above.
2. ***Build a spreadsheet:*** Construct an Excel spreadsheet and use the Excel commands to perform least-squares regression. Estimate the variable- and fixed-cost components in the airport's cost behavior pattern.
3. Write the least-squares regression equation for the airport's costs.
4. Predict the airport's costs during a month when 1,500 flights originate at the airport.
5. Using the Excel spreadsheet prepared for requirement (2), compute the coefficient of determination (R^2) for the regression equation. Briefly interpret R^2.

Cases

Case 6–47
Interpreting Least-Squares Regression; Landscaping Service; Activity-Based Costing
(LO 6-1, 6-2, 6-5)

2. Total variable cost per 1,000 square feet: $491.25
3. Overtime premium: $412.50

Outside Environment, Inc. provides commercial landscaping services in San Diego. Sasha Cairn firm's owner, wants to develop cost estimates that she can use to prepare bids on jobs. After anal the firm's costs, Cairns has developed the following preliminary cost estimates for each 1,000 s feet of landscaping.

Direct material	
Direct labor (5 direct-labor hours at $11 per hour)	
Overhead (at $18 per direct-labor hour)	
Total cost per 1,000 square feet	