

Due Tuesday, Apr 23

1. Exercise 11.22
2. Exercise 11.27
3. Exercise 11.31
4. Exercise 11.33
5. Exercise 11.35
6. Exercise 11.38
7. Exercise 11.39
8. Exercise 11.40
9. For many firms, expenses are linear functions of sales. That appears to be the case for ACME Manufacturing, a company that markets industrial gases. The following table shows Acme's annual sale and expenses for the years 1985 through 1992. For the model $E(Y) = \beta_0 + \beta_1 x$ we can calculate the estimators $\hat{\beta}_0 = 24.61$ and $\hat{\beta}_1 = 0.22$. Find a 95% confidence interval for β_1 .

Year	Sales (in thousands), x	Expenses (in thousands), y
1985	1756	407
1986	1942	466
1987	2132	489
1988	2431	545
1989	2642	610
1990	2895	659
1991	2931	686
1992	3217	724

10. Consider the last problem. Suppose the company's management believes that sales will stabilize over the next several years at the \$3,500,000 level. Construct a 95% confidence interval for $E(Y)$ when $x = x^* = 3500$.