

Solution to the You-Do for Topic 1

A. I asked you to fill in answers on page 30 of the notes for topic 1. Below are my answers.

$$Y = \beta_0 + \beta_1(LOS - 7) + \beta_2(SALARY - 15,000) + \beta_3(SALARY - 15,000)^+ + \varepsilon$$

β_0 = Average expenditure when the LOS is 7 days and SALARY is \$15,000
= Intercept for the SALARY line before the break point (\$15,000)

β_1 = Rate of change in expenditures per LOS for a fixed SALARY.

β_2 = Rate of change in expenditures per \$1000 of SALARY for states whose SALARY is less than or equal to \$15,000 and whose LOS is fixed.

$\beta_2 + \beta_3$ = Rate of change in expenditures per \$1000 of SALARY for states whose SALARY is greater than \$15,000 and whose LOS is fixed.

$$\beta_0 - 15,000\beta_2 - 15,000\beta_3$$

= Intercept for the SALARY line after the break point (\$15,000)