

## Homework Assignment #5

due 4:30 pm, Tuesday, December 2

**\*\*\* Due time will be strictly enforced. Late HW is subject to at least 25% penalty \*\*\***

1. (15 points) Do Problem (1) of Section 24.4 in the Text.
2. (10 points) Do Problem (8) of Section 24.4 in the Text.
3. (25 points) Suppose we have 4 observations for the total construction cost of new houses: \$10K for one house, \$25K for 3 houses, \$42K for 5 houses, and \$51K for 7 houses.
  - (a) Please give the least squares regression line for the housing construction costs. Let  $y$  be the total construction cost and  $x$  be the number of houses.
  - (b) What is  $R^2$ ?
  - (c) Consider another regression line:  $y = \$4K + \$6K * x$ . What is  $R^2$  for this regression line?
  - (d) What conclusion can you make by comparing the results in parts (b) and (c)?