Homework # 5 (Chapter 13) STAT 110/ A1, C1, E1, M1

Review Exercises (page 700)

 ${f Q.10}$ A statistics instructor wishes to see whether is a relationship between the number of homework exercises a student completes and her or his exam score. Find the Spearman rank correlation coefficient.

A.2

| Homework | R_h | Exam | R_e | $d = R_h - R_e$ | d^2 |
|----------|-------|------|-------|-----------------|----------------|
| 63 | 5 | 85 | 5 | 0 | 0 |
| 55 | 3 | 71 | 2 | 1 | 1 |
| 58 | 4 | 75 | 4 | 0 | 0 |
| 87 | 7 | 98 | 8 | -1 | 1 |
| 89 | 8 | 93 | 7 | 1 | 1 |
| 52 | 2 | 63 | 1 | 1 | 1 |
| 46 | 1 | 72 | 3 | -2 | 4 |
| 75 | 6 | 89 | 6 | 0 | 0 |
| 100 | 9 | 100 | 9 | 0 | 0 |
| | | | | | $\sum d^2 = 8$ |

$$r_s = 1 - \frac{6(8)}{9(9^2 - 1)} = 0.933$$