

Math 640A
Homework 9, due Friday November 15.

Fall 2002

1. (20 points) Section 5.3 problem 16.
2. (20 points) Section 5.3 problem 28.
3. (20 points) Section 5.4 problems 14, 15, 16, and 17.
4. (40 points) Do this problem as a Good Problem, paying attention to the *Layout*, *Flow*, *Symbols*, *Logic*, *Graphs*, and *Introductions* handouts. Instead of stating the question, give an introduction as if this was a report.

We have the following learning styles data matrix:

	MM	YL	BH	LM	MD	JC	SZ
Visual	5	2	4	1	8	4	5
Aural	0	3	4	2	3	7	0
Read/Write	4	7	5	4	7	6	5
Kinesthetic	4	1	9	6	5	8	3

Suppose that we perform a singular value decomposition to this matrix. Each left singular vector gives a linear combination of V, A, R, and K, so we can interpret it as describing a learning activity. Each right singular vector gives a combination of people, so we can interpret it as describing how much each person would benefit from that activity. The singular value measures how strong this information is.

Is this interpretation of the singular value decomposition valid? Is this a fair way to choose an activity? Can you improve this analysis? Analyze the data above, present your analysis, display your results, and give a recommendation for a learning activity.