**CSE 5319/6319 Homework 4**

Due April 17, 5:00 p.m. on Canvas

1. KP p. 266, problem 14.18.

2. Similar to p. 25-26 of notes03.2.mech.pdf, analyze the Allocation Algorithm for Downward Sloping Valuations for following *vi*(*k*) values for buyer *i*. Note that *vi*(*k*) = *vi*1 + *vi*2 + . . . + *vik*. The result is a table of clearing prices and allocations like the one at the top of p. 26.

*k*

*vi*(*k*) 0 1 2 3 4 5 6 7 8

1 0 50 100 143 182 219 244 259 269

50 50 43 39 37 25 15 10

*i* 2 0 70 135 188 223 257 287 313 323

70 65 53 35 34 30 26 10

3 0 60 115 160 200 236 263 287 304

60 55 45 40 36 27 24 17

3. Compute the VCG payments for the minimum spanning tree for this graph.



4. Determine the optimal fixed price for the following bids for copies of a digital good:

10 10 10 9 9 8 8 8 7 7 6 6 5 5 4 4 4 4 4 4