**CSE 5319/6319 Homework 4**

Due April 19, 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 50 100 143 182 219 243 257 269

 50 50 43 39 37 24 14 12

 *i* 2 0 70 135 188 223 256 286 311 321

 70 65 53 35 33 30 25 10

 3 0 60 115 160 200 235 265 289 306

 60 55 45 40 35 30 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 4 4 4 4 4 3 3 3