Homework 16: Chapter 16

Reading: Chapter 16

Book Exercises: 16.2 (Solutions)

Other Exercises: (Solutions)

1. Suppose avid pie-eaters A and B are dividing a homogeneous pie with pumpkin and Boston creme components.

   (a) If A likes pumpkin three times as much as Boston creme, describe A's ideal pie - ie, what proportions of the whole would A like each component to be?

   (b) If B likes Boston creme four times as much as pumpkin, describe B's ideal pie. (you might want to put this information in a table)

   (c) Consider these two cuts:

	S_1	S_2
Pump	1/3	2/3
BosCr	1	0

	T_1	T_2
Pump	5/6	1/6
BosCr	0	1

   Remember: the cut on the left is 1/3 pumpkin and all the Boston creme in the first slice, S_1, and the rest in S_2. For the cut on the right, T_1 has 5/6 pumpkin and none of the Boston creme.
   Which cut(s) would A make to guarantee getting A's fair share?

   (d) If A makes a good cut for playing I cut you choose using one of the cuts above, which slice would B pick?

   (e) There are many cuts that A could make to guarantee getting A's fair share in I cut you choose. Can you find others?