

Math 180 Homework #8
Due Friday, November 15

1. For each of the following scenarios, parties A and B each claim a total amount from an estate. Explain how to divide it up according to each of the three methods we discussed (equal division, proportional division, and equal division of the contested sum):
 - (a) estate of 1,000. A claims 600, B claims 800.
 - (b) estate of 500. A claims 300, B claims everything.
 - (c) estate of 100, A claims 60, B claims 40.
2. Alfred, Bertha, Claude, and David claim 100, 200, 300, and 400 units from an estate.
 - (a) If the estate is worth 400, how can you divide the estate so that the values given to any two people satisfies splitting via equal division of contested sums?
 - (b) If the estate is worth 800, how can you divide the estate so that the values given to any two people satisfies splitting via equal division of contested sums?
3. Describe a bidder's dominant strategy when participating in a second-price, scaled bid auction. Why is this strategy dominant?
4. Agnes, Bertrand and Camille are heirs to an estate. The estate consists of:
 - Apartment in London, Great Britain
 - House in Paris, Pennsylvania
 - C.M. Coolidge painting
 - Yacht

The heirs price the objects at (in \$1000s):

| | Agnes | Bertrand | Camille |
|-----------|--------|----------|---------|
| Apartment | 10,000 | 11,000 | 9000 |
| House | 200 | 100 | 150 |
| Painting | 500 | 450 | 550 |
| Yacht | 1000 | 900 | 950 |

If they split the goods using the method of sealed bids, what will each person end up receiving?