

Notes--Estate Division

- Use when you have items to be divided that cannot be split into smaller pieces
- Assumptions: 1) Each person has enough \$ to play
2) Each player is willing to accept cash instead of an item

Sealed Bids Method for Estate Division

- 1) Each person secretly bids a dollar amount they value each item to be worth. This is their sealed bid.
- 2) The bids are collected, and a fair share for each person is calculated.
- 3) Each item is awarded to the highest bidder.
- 4) For each person, the value of all items received is totaled. If that value is more than that person's fair share, they pay the difference in a holding pile. If the value is less than that person's fair share, they receive the difference from the holding pile. This ends the "initial allocation".
- 5) Any leftover money in the holding pile is considered as "surplus". It is divided evenly by all of the players. This produces the "final allocation".

More information about the payment process:

- ❖ $\frac{\text{add total bid amount per player}}{\# \text{ bidders}} = \text{fair share amount to that player}$
- ❖ When you calculate the value of awarded item(s) – that player's fair share amount...
 - if positive → that's the amount they owe the estate
 - if negative → that's the amount they receive from the estate
- ❖ "pay" total – "get" total = surplus amount (the amount of \$ leftover in the holding pile)
- ❖ $\frac{\text{surplus amount}}{\# \text{ bidders}} = \text{additional amount each player receives from the estate}$

Summary

- 1) Calculate each person's fair share: Add total bids for each person. Divide total bids by # of people.
- 2) Calculate value of item(s) received minus that person's fair share amount.
- 3) Combine positive amounts and combine negative amounts. Calculate the difference to get the surplus amount.
- 4) Divide the surplus amount by the # of people. Each person will get this amount.
- 5) Final allocation: describe any item each person receives and calculate the final amount each person must receive or pay

Example 1 In her last will and testament, Grandma leaves three valuable items—a house, a Land Rover, and a Picasso painting—to her four grandchildren: Megan, Nyle, Olivia, and Riley. Use the method of sealed bids to divide the items fairly in equal shares among the grandchildren.

	Megan	Nyle	Olivia	Riley
House	220,000	250,000	211,000	198,000
Land Rover	40,000	30,000	47,000	52,000
Picasso	280,000	240,000	234,000	190,000
total bid	540,000	520,000	492,000	440,000
fair share	135,000	130,000	123,000	110,000

M: $280,000 - 135,000 = 145,000$
 N: $250,000 - 130,000 = 120,000$
 O: $0 - 123,000 = -123,000$
 R: $52,000 - 110,000 = -58,000$

$265,000$
 $-181,000$

 $84,000$ surplus
 $\div 4$
 $21,000$ to each player

M: Picasso pay \$124,000
 N: house pay \$99,000
 O: get \$144,000
 R: land rover, get \$79,000

Example 2 Use the method of sealed bids to divide the items fairly in equal shares:

	Nick	Kaye	Emma
House	80,000	70,000	76,000
Boat	5,000	9,000	7,000
Car	8,000	11,000	13,000
total bid	93,000	90,000	96,000
fair share	31,000	30,000	32,000

N: $80,000 - 31,000 = 49,000$
 K: $9,000 - 30,000 = -21,000$
 E: $13,000 - 32,000 = -19,000$

$49,000$
 $-40,000$

 $9,000$ surplus
 $\div 3$
 $3,000$

N: house pay \$46,000
 K: boat get \$24,000
 E: car get \$22,000

Example 3 Use the method of sealed bids to divide the items fairly in equal shares:

	Megan	Macey
Cabin	60,900	65,300
Car	29,200	33,200
total bid	90,100	98,500
fair share	45,050	49,250

Megan: $0 - 45,050 = -45,050$
 Macey: $98,500 - 49,250 = 49,250$

$49,250$
 $-45,050$

 $4,200$ surplus
 $\div 2$
 $2,100$

Megan: get \$47,150
 Macey: cabin, car pay \$47,150