

Goal: Lone-Divider, Introduce Sealed Bids

1. Abel, Barbie, and Chris are splitting a the cake worth \$36. Abel is the Divider who determines the three pieces. Barbie and Chris value the pieces according to the following table:

	piece 1	piece 2	piece 3
Abel	\$12	\$12	\$12
Barbie	\$18	\$12	\$6
Chris	\$11	\$18	\$7

- (a) How much value is a fair share of the cake? \_\_\_\_\_
- (b) Which pieces represent a fair share for Barbie? \_\_\_\_\_
- (c) Which pieces represent a fair share for Chris? \_\_\_\_\_
- (d) Is it possible to distribute the pieces of cake to the three people so that everyone gets a piece that is a fair share for them? If so, explain how to do so; if not, explain what happens next.
2. Method of Sealed Bids (pg 103 for full description)
- 1) Each player submits a sealed bid on each item.
  - 2) Calculate **total value** and **fair share** for each player.
  - 3) Award each item to highest bidder.
  - 4) For each player, determine the difference between the value received and fair share.  
(owed to holding pile or received from holding pile)
  - 5a) Calculate the surplus and divide it equally.
  - 5b) Determine the final allocation.

3. Example 1. Anand and Bert are dividing the property below. Their value of each item is in the table below.

	items	Anand	Bert
1)	couch	\$300	\$200
	coffee maker	\$50	\$100
	framed artwork	\$50	\$150
2)	Total Value		
	Fair Share		
3)	Award & Sum		
4)	(Award)-(Fair Share) mark owed or received		
5a)	total surplus		
	per person		
5b)	Final Allocation		

4. Example 2. What happens if Anand takes a different strategy and bids high in order to ensure receiving the three items?

	items	Anand	Bert
1)	couch	\$400	\$200
	coffee maker	\$200	\$100
	framed artwork	\$100	\$60
2)	Total Value		
	Fair Share		
3)	Award & Sum		
4)	(Award)-(Fair Share) mark owed or received		
5a)	total surplus		
	per person		
5b)	Final Allocation		