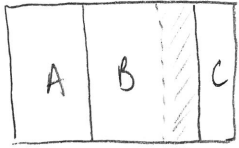


Chapter 20 homework solutions

1)



a) after C takes the right, B must take the middle piece which was trimmed. Then A takes the left.

↑
trimmings

b) C should cut the trimmings, since C got the untrimmed piece, not B.

c) B should choose from the trimmings first, since B got the trimmed piece.

2) a) A gets the parrot and 14 detective novels

B gets the book collection without $\frac{1}{2}$ the works of Dickens and without 22 detective novels.

C gets the dining room furniture, $\frac{1}{2}$ the works of Dickens and 8 detective novels.

b) A thinks all the books are of equal value to the parrot. Since B got fewer than all the books, and A got more than the parrot, A does not envy B.

c) A thinks the dining room furniture and parrot are of equal value. Among the books, A sees the 14 novels at least equal to $\frac{1}{2}$ of the works of Dickens plus 8 novels (we know this because both were available for A to choose, and A chose the 14 novels). So A does not envy C.

3) After round 1, only A is guaranteed to have a fair share.

4) W cuts, U chooses, then V chooses, finally W chooses.

U envies nobody because U picks first.

W envies nobody because all three pieces are equal in W's view.

V doesn't envy W because V chooses before W.

V may envy U, if U picked a piece that V likes the most.