

Compensation Worksheet #3
October 26, 2018
2 Points

Circle one name.

Name: Solutions Name: _____ Name: _____

Last time we helped Brian, Stewart and Peter divide some office equipment using Knaster's method. Recall that for the final settlement using Knaster's method, Brian received the printer and \$55 cash. Stewart received the copier and paid \$75. Peter received the cabinet and desk and \$20 cash.

	Brian	Stewart	Peter
cabinet	\$60	\$65	\$80
desk	\$35	\$30	\$40
printer	\$90	\$70	\$50
copier	\$200	\$220	\$200

1. For the final settlement using Knaster's above, find the net value of the winnings for each person.

(a) $x_{\text{Brian}} = \text{Printer} + \$ = \$90 + \$55 = \145

(b) $x_{\text{Stewart}} = \text{Copier} + \$ = \$220 + (-\$75) = \145

(c) $x_{\text{Peter}} = \text{Cabinet} + \text{Desk} + \$ = \$80 + \$40 + \$20 = \$140$

2. A person's XB ratio is the fraction of their compensation over their total bid: $x_{\text{person}}/b_{\text{person}}$. Find the XB ratio for each person.

(a) XB ratio for Brian $\frac{145}{385} = 0.377$

(b) XB ratio for Stewart $\frac{145}{385} = 0.377$

(c) XB ratio for Peter $\frac{140}{370} = 0.378$

3. The x -values above tell us what Brian's settlement is worth to Brian, and what Peter's settlement is worth to Peter, etc.. Now we'll find perceived values from other points of view.

Envy occurs when one person calculates another's compensation using their own valuations and comes up with a compensation higher than their own.

- (a) What is Brian's settlement worth to Peter? Does Peter envy Brian? (Compare your calculation of Peter's opinion of Brian's settlement to x_{Peter} you found above.

(x) Which would Peter rather have?) To Peter: $\text{Printer} + \$ = \$50 + \$55 = \105 is Brian's compensation. $\$140 > \105 , Peter does not envy Brian.

(b) What is Peter's settlement worth to Brian? Does Brian envy Peter? To Brian: $\text{Cabinet} + \text{Desk} + \$ = \$60 + \$35 + \$20 = \$115 < \145 . Because Peter views his x as being bigger than Brian's, Brian does not envy Peter.

(c) What is Stewart's settlement worth to Peter? Does Peter envy Stewart? To Peter: $\text{Copier} + \$ = \$200 + (-\$75) = \125 . $\$125 < \140 , so Peter does not envy Stewart.