

## Quiz 11

1. The psych students  $A, B,$  and  $C$  submit bids  $\boxed{a = 6 \quad b = 4 \quad c = 5}$  for their advisors outdated Weschler IQ test.

(a) Suppose  $A$  is the winning bidder. Find an equitable compensation arrangement. (3 pts)

$$q = \underline{\hspace{2cm}} \quad x_B = \underline{\hspace{2cm}} \quad x_C = \underline{\hspace{2cm}}$$

(b) Now suppose  $C$  is the winning bidder. The payouts are

$$x_A = 2 \quad x_B = 1$$

What does

i.  $A$  think  $A$  gets? (1 pt)

ii.  $A$  think  $C$  gets? (1 pt)

iii.  $C$  think  $C$  gets? (1 pt)

iv. Circle which players have envy:  $A \quad B \quad C$  (1 pt)

2. Now  $A$  and  $B$  submits bids  $\boxed{a, b}$  which are some positive real numbers, NOT the number from Question 1. If  $A$  is the winning bidder, what is the equitable payout to  $B$  that  $A$  should make? Show work. (3 pts)

bids:  $a, b$  unknown real numbers.  $A$  wins. Find  $q, x_B$

$$x_B = \underline{\hspace{2cm}}$$

3. **Extra credit** (+1 pt) Prove that the payout you found in Question 2 is fair to  $B$  if and only if  $A$  is a highest bidder. Write on the back!

PLEASE WRITE YOUR NAME ON THE BOTTOM OF THIS PAGE

Name: \_\_\_\_\_