

# Quiz 3 Solutions

	$S_1$	$S_2$	$S_3$
A	\$7.60	<del>\$5.60</del>	<del>\$6.80</del>
B	\$5.00	\$5.00	\$9.00
C	\$3.40	\$4.00	<del>\$2.60</del>

Total	FS Threshold
\$20	$\$20/3 = \$6.67$
\$15	$\$15/3 = \$5.00$
\$10	$\$10/3 = \$3.33$

## 1. Fair Shares

A:  $S_1, S_3$   
 B:  $S_1, S_2, S_3$   
 C:  $S_1, S_2$

## Fair Divisions

	A	B	C
(i)	$S_1$	$S_3$	$S_2$
(ii)	$S_3$	$S_1$	$S_2$
(iii)	$S_3$	$S_2$	$S_1$

## 2. Fair Div Values

	A	B	C
(i)	7.60	6.00	4.00
(ii)	6.80	5.00	4.00
(iii)	6.80	5.00	3.40

← first notice that (ii) is inefficient by comparison to (i)  
 ← also (iii) is inefficient by comparison to (i) or (ii)

Finally, (i) is efficient  
 Since we've already eliminated the other choices (and there is always at least 1 efficient division).

3. (i) is envy-free  
 Since all players get their highest valued share.

\* Recall also that envy-free  $\Rightarrow$  efficient