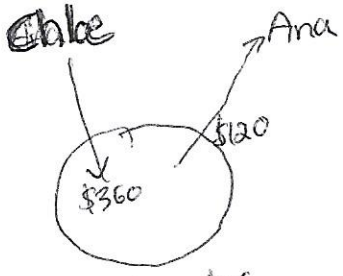
HW 4 Solutions

1.

	Dresser	Desk	Vanity	Tapestry	Total	FS Threshold
Ana	$150	($180)	$170	$400	$900	$900/3 = $300
Belle	($300)	$150	$200	$250	$900	$300
Chloe	$275	$165	($260)	($500)	$1200	$1200/3 = $400

- Ana gets $120 less than FS threshold so ~~gets~~ $120 from money pot
- Belle gets exactly her FS threshold so does not pay or get anything from money pot
- Chloe gets $360 more than FS threshold so pays $360 to money pot



Surplus
= $360 − $120
= $240

Surplus Division
= $240/3
= $80

Final Settlement:

Ana: Desk and gets $120 + $80
Belle: Dresser and gets $80
Chloe: Vanity, Tapestry, pays $360, gets $80

2. a) $SD = \frac{130,000}{125} = 1040$

b) ~~Total riders are~~ The daily average ridership per 1 bus.

c) $SQ = \frac{\text{Riders}}{1040}$

Route	A	B	C	D	E	F	Total
Riders	45,300	31,070	20,490	14,160	10,260	8,720	130,000
SQ	43.558	29.875	19.702	~~14.865~~ 13.615	~~13.615~~ 9.865	8.385	125
L	43	29	19	13	9	8	121
Residue	.558	.875	.702	.615	.865	.385	4
Ranking		1st	3rd	4th	2nd		
Apportionment	43	30	20	14	10	8	125

d)

e) Try modified divisor $d = 1020$ since $d = 1040 = SD$ gives too small of lower quotas.

Route	A	B	C	D	E	F	Total
Riders	...	...	...	...	...	...	...
SQ	44.41	30.46	20.09	13.88	10.06	8.55	
L	44	30	20	13	10	8	125
Apportionment	44	30	20	13	10	8	125

modified

$SQ = \frac{\text{Riders}}{1020}$

3. a) $SD = \frac{\text{Total pop}}{\text{Seats}} = \frac{130}{250} = 0.52$

b) The average number of beds per nurse

c)

Unit	ECU	ICU	MU	PU	SU	Total
Beds	21	19	35	30	25	130
SQ	40.38	36.54	67.31	57.69	48.08	250
L	40	36	67	57	48	248
Residue	.38	.54	.31	.69	.08	
Ranking		2nd		1st		
Apportionment	40	37	67	58	48	250

d)

e) This one was harder than I^n meant. Try $d = 0.514$,

Unit	ECU	ICU	MU	PU	SU	Total
Beds	21	19	35	30	25	130
SQ	40.85	36.96	68.09	58.37	48.64	
L	40	36	68	58	48	250
Apportionment	40	36	68	58	48	250

$SQ = \frac{\text{Beds}}{0.514}$