	Odomirok.19-RBC	(RBC - R1) a-Question - Mixed Text Examples
Model:	mixture of 2 examples from Odomirok text (tables 86, 87, 88)	
Problem Type:	Calculate RBC charge $R_{1.}$	

Given

data for R_1 calculation		
item	**amount**	**RBC factor**
cash & equivalents	154,000	0.0030
other short-term investmemts	829,000	0.0030
mortgage bonds	245,000	0.0500
net admitted collateral loans	0	0.0500
bonds	**amount**	**RBC factor**
U.S. government	6,395,684	0.0000
Class 01 U.S. govt. bonds	0	0.0030
Class 01 non-U.S. govt bonds	46,060,660	0.0030
Class 02 unaffiliated bonds	4,987,460	0.0100
Class 03 unaffiliated bonds	704,112	0.0200
Class 04 unaffiliated bonds	352,056	0.0450
Class 05 unaffiliated bonds	117,352	0.1000
Class 06 unaffiliated bonds	58,676	0.3000

# of bonds issuers	120

assets subject to asset concentration charge						
	fixed income investments		**equity investments**			
	class 02 unaffiliated bonds	*mortgage bonds*	*class 03 unaffiliated preferred stocks*	*unaffiliated common stock*	*real estate*	total *
1				1,200,000		1,200,000
2		1,000,000				1,000,000
3	1,000,000					1,000,000
4	900,000					900,000
5			900,000			900,000
6	820,000					820,000
7			800,000			800,000
8	550,000					550,000
9		200,000			35,000	235,000
10	220,000					220,000
11				200,000		200,000
12	200,000					200,000
13				100,000		100,000
14	80,000					80,000
15				25,000	50,000	75,000
total	3,770,000	1,200,000	1,700,000	1,525,000	85,000	8,280,000

* represents total assets subject to asset concentration charge

R_1	=	basic charge	+	BSC	+	ACC
	=	262,518	+	185,490	+	94,900
	=	542,908	<== final answer			

step 1: calculate the basic R_1 RBC charge

(multiply amounts by RBC factors for each item in the table)

basic R_1 charge = orange + blue highlights = **262,518**

item	RBC charge
cash & equivalents	462
other short-term investmemts	2,487
mortgage bonds	12,250
net admitted collateral loans	0
bonds	**RBC charge**
U.S. government	0 <== NOT subject to bond size charge
Class 01 U.S. govt. bonds	0 <== NOT subject to bond size charge
Class 01 non-U.S. govt bonds	138,182
Class 02 unaffiliated bonds	49,875
Class 03 unaffiliated bonds	14,082
Class 04 unaffiliated bonds	15,843
Class 05 unaffiliated bonds	11,735
Class 06 unaffiliated bonds	17,603
bonds subject to bond size factor	247,319 <== sum blue highlighted values

step 2: calculate BSC (Bond Size Charge)

BSC	=	BSF	x	(assets subject to BSF)
	=	0.750	x	247,319
	=	**185,490**		

BSF calc:

# issuers = 120	# issuers (1)	weights (2)	(3)=(2)x(1)
first 50	50	2.5	125.0
next 50	50	1.3	65.0
next 300	20	1.0	20.0
> 400	0	0.9	0.0
total	**120**		**210.0**

BSF	=	210	/	120	-	1
	=	0.750	*<== substitute this value above as shown*			

step 3: calculate ACC (Asset Concentration Charge) for R_1

(the 5-step procedure from the wiki is: gather, sort, truncate, sum, multiply)

gather: this is already done for you
sort: this is already done for you
truncate: cut the list off at the TOP 10
sum: sum the TOP 10:

class 02 unaffiliated bonds	=	3,490,000
mortgage bonds	=	1,200,000

multiply: multiply the above sums by the appropriate RBC factor

3,490,000	x	0.0100	=	34,900
1,200,000	x	0.0500	=	60,000
				94,900 <== ACC