1A, page 24: S_H = savings at $r_H = \int_0^{r_H} (r_H - r)\, f(r)\, dr = \int_0^{r_H} F(r)\, dr$.

2, p.10, revise both question 5 and its solution:

5. (3 points) Calculate the insured's primary and excess losses to be included in its 2/1/07 workers compensation experience rating modification factor for the following disease claims, given the information below. Show all work.

State per claim accident limitation is $150,000.

Disease Claims covered by the 2/1/03 policy:

Claim Number	Paid	Case Reserves
1	$200,000	0
2	$50,000	0
3	$150,000	0
4	$250,000	0
5	$30,000	$200,000
6	$10,000	$300,000
7	$5000	$400,000
8	$5000	$500,000
9	$25,000	$750,000
10	$50,000	$100,000

Disease Claims covered by the 2/1/04 policy:

Claim Number	Paid	Case Reserves
1	$180,000	0
2	$50,000	0
3	$30,000	$200,000

Disease Claims covered by the 2/1/05 policy:

Claim Number	Paid	Case Reserves
1	$280,000	0
2	$10,000	0
3	$20,000	$100,000
4	$15,000	$500,000
5	$7000	$400,000

Policy	Expected Primary Losses	Expected Excess Losses
2/1/03 - 04	$50,000	$120,000
2/1/04 - 05	$60,000	$140,000
2/1/05 - 06	$70,000	$160,000

5. The policy disease limit is: (3)(State per claim accident limitation) + (120%)(expected losses) = (3)(150,000) + (120%)(170,000 + 200,000 + 230,000) = $1,170,000.
This applies separately to each policy year.
First limit each claim by the $150,000 accident limit.
Disease claims limited by the per accident limit from the 2/1/03 policy:
$50,000 + (9)($150,000) = $1,400,000.
Limit the disease losses entering the plan to $1,170,000.
Disease claims limited by the per accident limit from the 2/1/04 policy:
$50,000 + (2)($150,000) = $350,000.
Disease claims limited by the per accident limit from the 2/1/05 policy:
$10,000 + $120,000 + (3)($150,000) = $580,000.
Disease claims entering plan are: 1,170,000 + 350,000 + 580,000 = $2,100,000.
The actual primary from disease claims is limited to: $10,000 + (40%)(expected primary losses) = $10,000 + (40%)(50,000 + 60,000 + 70,000) = $82,000.
This applies separately to each policy year.
Primary Losses from Disease claims from the 2/1/03 policy: (10)(5000) = $50,000.
Thus the $82,000 limit on primary losses does not have an effect in this case.
Primary Losses from Disease claims from the 2/1/04 policy: (3)(5000) = $15,000.
Primary Losses from Disease claims from the 2/1/05 policy: (5)(5000) = $25,000.
Actual primary losses: 50,000 + 15,000 + 25,000 = **$90,000.**
Actual excess losses: $2,100,000 - $90,000 **= $2,010,000**.
Comment: See Rule 2.C.13.b.
The limitation on primary losses from disease claims would have had an effect if there had been more disease claims in a year or if the insured had been smaller.

2, p.33, solution 25:
For Alabama, the multiple claim accident limit is $296,000.
Thus the 3 person accident is capped at $296,000 for purposes of experience rating.
This multiperson accident can contribute at most 10,000 to the primary losses.
There is not enough information to determine exactly how much it will contribute to the primary losses, but I will assume 10,000.
The primary losses are: (20)(4000) + (.3)(5000) + 10,000 = $96,500.
The excess losses are: (.3)(4000) + $286,000 = $287,200.
For class code 6504, ELR = 1.24 and D = 0.20.
E = (Payroll /100)(Expected Loss Rate) = (10,000,000 /100) x 1.24 = $124,000.
E_p = (20%)($124,000) = $24,800. $E_e = E - E_p$ = $124,000 - $24,800 = $99,200.
For E = 124,000, W = 0.17 and B = 26,550.
$M = \{A_p + wA_e + (1 - w)E_e + B\}/(E + B)$ =
{96,500 + (0.17)(287,200) + (0.83)(99,200) + 26,550}/(124,000 + 26,550) = **1.69**.
Comment: Unfortunately, the factors, and thus the answer depends on which vintage of the plan you use. I used the plan from the 2008 CAS study kit, labeled March 1, 2007.
If the multiperson accident consists of two small claims and one large claim, then the contribution to the primary losses could be less than 10,000. If the claims are 1000, 1000, and 398,000, then it would contribute only 7000 to the primary losses. If instead the claims were 50,000, 100,000, and 250,000, then it would contribute the maximum of 10,000 to the primary losses. It will contribute more than 5000 to the primary losses, and at most 10,000.

5B, p.57, solution 38:

			Policy Adj.	Policy Adj.	Detrend	Subject
	Premium	ELR	Factor 1	Factor 2	Factor	Loss Cost
Latest	323,125	0.8	1.16	0.44	0.873	115,182
2nd Latest	323,125	0.8	1.16	1	0.816	244,686
3rd Latest	323,125	0.8	1.16	1	0.763	228,793
						588,661
Subject			Expected			
Loss Cost	EER	LDF	Unreported			
115,182	0.971	0.6	0	no provision since it is a claims made policy		
244,686	0.971	0.45	106,915			
228,793	0.971	0.35	77,755			
			184,671			

Consulting Table 16, with 588,661 in company subject premium:
Z = 0.67, EER = 0.971, MSL = 248,800.
Claim #1 is not in the experience period.
Assuming a $100,000 basic limit as in Rule 5A of the Experience Rating Manual:

Claim Number	Basic Limit Loss and Unlimited ALAE	Limited by MSL
2	$200,611	$200,611
3	$185,000	$185,000
4	$137,000	$137,000
5	$538,250	$248,800
Total		$771,411

AER = (771,411 + 184,671)/588,661 = 1.624.
M = (0.67)(1.624 - 0.971)/0.971 = **45.1% debit**.

8, page 1: Table of Insurance Charges Value Difference = (E + e - H**/T**)/{c(E- ELF)}.

8, page 37, sol. 28b: (125% - 70%)/{(1.1)(**.616** - .396)(1.05)}

9A, page 22, the entry ratios should be:
0.615, 0.923, 1.231, 1.538, 1.846, 2.154, 2.462, 2.769, 3.077.

12, page 17, Q.22, 9, 11/99, Q.42: **3.25** points