10. (2.5 points)

Calculate an insurance company's 2016 statutory policyholders' surplus using the following information (all figures are in millions of dollars):

		2016	2015
A	Policyholders' Surplus		625
B	Net Premium Written	650	500
C	Net Premium Earned	575	400
D	Losses Incurred	415	250
E	Loss Adjustment Expenses Incurred	100	50
F	Other Underwriting Expense Incurred	125	105
G	Net Investment Income Earned	60	55
H	Net Realized Capital Gain less Capital Gains Tax	12	5
I	Net Unrealized Capital Gains less Capital Gains Tax	70	90
J	Other Income	8	10
K	Dividends to Policyholders	6	4
L	Dividends to Stockholders	23	20
M	Federal and Foreign Taxes Incurred	7	3
N	Net Deferred Income Tax	28	24
O	Provision for Reinsurance	9	11
P	Total Assets	900	800
Q	Non-Admitted Assets	120	75

Common mistakes included the following:

- Providing facts about the exhibits (e.g., the balance sheet shows assets, liabilities and surplus) rather than an explanation how the identified user would use the information in the exhibit to satisfy a particular need.
- Not providing users or how the exhibit satisfied the user's needs.
- Misidentifying items as in the exhibit when in fact they were in the exhibit (e.g., taxable income can be found in the income statement).

QUESTION 10	
TOTAL POINT VALUE: 2.5	**LEARNING OBJECTIVE: C1**
SAMPLE ANSWERS	

Sample 1

Net Income =

575	EP
-415	Loss
-100	LAE
-125	Other
+60	Investment Income Earned
+12	Realized
+8	Other Income
-6	Div. to PHs
-7	Federal and Foreign Taxes Incurred
2	

Surplus =

625	
+2	
+(28 - 24)	Δ DTA
-(9 - 11)	Δ Provision
-(120 - 75)	Δ Nonadmitted
-23	Dividends to stockholders
+(70 - 90)	Δ Unrealized gains/losses
$545,000,000	

The tax effect of unrealized gains/loss already included in Δ DTA.

Sample 2

625 + 575 - 415 - 100 - 125 + 60 + 12 + (70 - 90) + 8 - 6 - 23 - 7 - (28 - 24) - (9 - 11) - (120 - 75)

= 537

625M	A: 2015 PHS
+575M	C: 2016 NEP
-415M	D: 2016 losses incurred
-100M	E: 2016 LAE incurred
-125M	F: 2016 UE incurred
+60M	G: 2016 NII earned
+12M	H: 2016 realized CG
-30.77M	I: Δ unrealized CG (see note 1)
+8M	J: 2016 other income
-6M	K: 2016 policyholder div
-23M	L: 2016 stockholder div
-7M	M: 2016 taxes incurred
-4M	N: Δ deferred income tax (assumes this means DTL)
+2M	O: Δ provision for reinsurance
-45M	Q: Δ non-admitted assets
$526.23M	=2016 PHS

Note 1) Δ unrealized CG = (70M-90M)/0.65 = -30.77M
removed DTA so as not to double-count item N

EXAMINER'S REPORT

This question tested knowledge of relationship between key statutory financial statements including the income statement (page 4) and balance sheet (pages 2, 3). With the exception of net deferred income tax, discussed in detail below, candidates were expected to recognize that the values provided came from statutory financial statements and hence understand the statutory definition of each value.

A familiarity with basic accounting concepts was helpful in answering this question. Under these concepts financial reports are prepared by
1. Calculating net operating income in the income statement (top three subsections of page 4 including lines 1-20).
2. Net income flows into the statement of owner's equity (last subsection of page 4, Capital and Surplus Account, lines 29-39) and is combined with surplus adjustments to calculate ending surplus.
3. The calculated ending surplus flows to the surplus section of the balance sheet which demonstrates balance in the accounting equation (assets = liabilities + surplus).

This question tested steps 1 and 2 above.

Step 1 was to calculate net income. Most candidates were successful in this step although several incorrectly calculated year-over-year changes in values that come from the first three sections of the statement of income (page 4, lines 1-20). These amounts already represent accrued outflows during the year (decreases in assets or increases in liabilities), thus calculating a change from 2015 to 2016 is unnecessary. Also, in their work, several candidates incorrectly classified parts of net income as surplus adjustments or surplus adjustments as net income. Most commonly, dividends to policyholders were classified as a surplus adjustment.

Step 2 involved calculating surplus adjustments which are added to net income to determine the ending 2016 surplus balance. In statutory accounting, several surplus adjustments are required to maintain balance because they are not included in net income. For this question, these included:
- Change in unrealized capital gains net of deferred capital gains tax.
- Change in nonadmitted assets
- Change in provision for reinsurance
- Change in net deferred income tax (see additional discussion below)
- Dividends to stockholders (note … this is not a change)

A common mistake was to exclude one or more of these adjustments.

Basic accounting knowledge was also helpful in understanding the sign of the surplus adjustment as listed below:
- Unrealized capital gains are included in certain asset values on the balance sheet on page 2 (e.g., unaffiliated common stocks are recorded at fair value). From the accounting equation, decreases in an asset value decrease capital (sign of change should be negative).
- Non-admitted assets are offsets to asset values on page 2. An increase in non-admitted assets decreases admitted asset values on the balance sheet and decreases surplus (sign of change should be negative).
- The provision for reinsurance is a liability on page 3. Decreasing a liability increases surplus (sign of change should be positive).
- Dividends to stockholders represent an outflow during the year and must be reflected (with a negative sign) in order to maintain balance. No need to calculate a change in this item.

Candidates struggled to understand when to calculate changes from the inputs provided. Inputs provided for all of the surplus adjustments listed above except for stockholder dividends represent assets or liabilities whose changes are not captured in net income. Thus, their calculated changes must be included in order to calculate the overall change in surplus.

Net Deferred Income Tax provided in the question (in row N) does not appear on the balance sheet nor is it specifically discussed in the syllabus material and many

candidates did not apply it in the way intended. Multiple approaches were accepted to account for this lack of clarity. The balance sheet does contain an asset named net deferred tax asset (DTA, page 2, line 18.2) and a liability named net deferred tax liability (DTL page 3, line 7.2). It should be noted that unrealized capital gains (in row L) also do not appear on the balance sheet. However, as referenced above, the syllabus material makes it clear that certain assets are recorded at fair value including unrealized capital gains/losses.

A subtle distinction is that row N is labeled as net deferred <u>income</u> tax while the balance sheet is labeled deferred tax asset or deferred tax liability, excluding the word "income". This suggests DTA and DTL include more than just income tax (e.g., capital gains tax). Many candidates thought the values provided were either a DTA or DTL from the balance sheet and examiners accepted these interpretations. Following the previous thought process, an increase in an asset should increase surplus (thus, the sign of the change should be positive). Similarly, an increase in a liability should decrease surplus (thus, the sign of the change should be negative).

Candidates who treated net deferred income tax (in row N) as a DTA or DTL and did not remove overlapping unrealized capital gains tax already accounted for in net unrealized capital gains were technically incorrect but this was not penalized. However, several candidates' answers indicated assuming DTA or DTL excluded unrealized capital gains taxes.

In summary, many approaches were accepted for the treatment of net deferred income tax as long as it was calculated as a change in the value, not simply the 2016 value.
- Treating it as a positive or negative change
- Treated as a DTL or DTA, regardless of overlap with unrealized capital gains tax

Below is a listing of common errors, including those discussed previously:
- Common errors in calculating net income:
  - Incorrectly calculating year-over-year changes in values that come from the first three sections of the statement of income (see previous discussion).
  - Double-netting taxes from unrealized capital gains net of tax (e.g., using (70-90)*65% instead of (70-90)).
  - Using written premium instead of earned premium. Under statutory accounting, premium revenues are recorded when premiums are earned, not when they are written.
  - Excluding expenses or revenues that contribute to net income (e.g., other underwriting expense incurred, realized capital gains).
- Common errors in calculating surplus adjustments:
  - Excluding required surplus adjustments, calculating changes incorrectly, or using the wrong sign (see previous discussion).

- o Including change in total asset value. This fails to recognize that a portion of the change in total asset value is already recognized in net income so adding changes in asset value is double counting the change in surplus. For example if a hypothetical company started business writing a single $100 policy on 1/1/2016, given no taxes, expenses, losses or other income sources, it's 2016 net income would be $100. Its change in surplus and assets would also be $100. Adding the change in assets to net income would say its surplus increased $200.
- Errors in overall approach to problem:
  - o A few candidates took a different approach in solving this problem by trying to directly solve for 2016 surplus as 2016 assets minus 2016 liabilities. Although it is possible to calculate 2016 assets, not enough information was provided to directly calculate 2016 liabilities from the inputs provided.

QUESTION 11	
TOTAL POINT VALUE: 2	LEARNING OBJECTIVE: C1
SAMPLE ANSWERS	

Part a: 1 point

Sample 1

CY 2016 Incurred Net Loss and DCC

= (3000+3000+3400+3100+1400) − (3200+3500+3100+1500) = 2600

CY 2016 Bulk & IBNR Reserves

=(1300+200+100+100+0) − (1500+500+300+100) = -700

CY 2016 Case Incurred Net Loss and DCC

=2600 − (-700) = 3300

Sample 2

Case Incurred = 3000 + (3000-3200) + (3400-3500) + (3100-3100) + (1400-1500) − [(1300 + (200-1500) + (100-500) + (100-300) + (0-100)] = 3300

Sample 3

Case Incurred = Paid + Change(Case Reserves)

Paid = 2016 Cum. − 2015 Cum. = (1400+…+1500) − (1300+…+1400) = 11100 − 7000 = 4100

Case Reserves = Part 2 − Part 3 − Part 4

	2015	2016
2012	100	0
2013	700	300
2014	800	200
2015	300	400