AMERICAN SOCIETY OF PENSION PROFESSIONALS AND ACTUARIES
JOINT BOARD FOR THE ENROLLMENT OF ACTUARIES
SOCIETY OF ACTUARIES

Enrolled Actuaries Pension Examination, Segment A

EA-2, Segment A

Date: Friday, November 2, 2007
Time: 8:30 a.m. – 12:30 p.m.

INSTRUCTIONS TO CANDIDATES

1. Write your candidate number here ____________. Your name must not appear.

2. Do not break the seal of this book until the supervisor tells you to do so.

3. Special conditions generally applicable to all questions on this examination are found at the front of this book.

4. All questions should be answered in accordance with laws, rules and regulations in effect as of June 30, 2007.

5. This examination consists of 51 multiple-choice questions of varying value. The point value for each question is shown in parenthesis at the beginning of each question. Total point value is 160.

6. Your score will be based on the point values for the questions that you answer correctly. No credit will be given for omitted answers and no credit will be lost for wrong answers; hence, you should answer all questions even those for which you have to guess. Answer choices C, D, and E will be considered incorrect answers on True-False questions.

7. A separate answer sheet is inside the front cover of this book. During the time allotted for this examination, record all your answers on side 2 of the answer sheet. NO ADDITIONAL TIME WILL BE ALLOWED FOR THIS PURPOSE. No credit will be given for anything indicated in the examination book but not transferred to the answer sheet. Failure to stop writing or coding your answer sheet after time is called will result in the disqualification of your answer sheet or further disciplinary action.

8. Five answer choices are given with each question, each answer choice being identified by a key letter (A to E). For each question, blacken the oval on the answer sheet which corresponds to the key letter of the answer choice that you select.

9. Use a soft-lead pencil to mark the answer sheet. To facilitate correct mechanical scoring, be sure that, for each question, your pencil mark is dark and completely fills only the intended oval. Make no stray marks on the answer sheet. If you have to erase, do so completely.

10. Do not spend too much time on any one question. If a question seems too difficult, leave it and go on.

11. While every attempt is made to avoid defective questions, sometimes they do occur. If you believe a question is defective, the supervisor or proctor cannot give you any guidance beyond the instructions on the exam booklet.

12. Clearly indicated answer choices in the test book can be an aid in grading examinations in the unlikely event of a lost answer sheet.

13. Use the blank portions of each page for your scratch work. Extra blank pages are provided at the back of the examination book.

14. When the supervisor tells you to do so, break the seal on the book and remove the answer sheet.

    On side 1 of the answer sheet, space is provided to write and to code candidate information. Complete Blocks A through G as follows:

    (a) in Block A, print your name and the name of this test center;

    (b) in Block B, print your last name, first name and middle initial and code your name by blackening the ovals (one in each column) corresponding to the letters of your name; for each empty box, blacken the small rectangle immediately above the "A" oval;

    (c) write your candidate number in Block C (as it appears on your ticket of admission for this examination) and write the number of this test center in Block D (the supervisor will supply the number);

    (d) code your candidate number and center number by blackening the five ovals (one in each column) corresponding to the five digits of your candidate number and the three ovals (one in each column) corresponding to the last three digits of the test center number, respectively. Please be sure that your candidate number and the test center number are coded correctly;

    (e) in Block E, code the examination that you are taking by blackening the oval to the left of "Course EA-2, Segment A."

    (f) in Block F, blacken the appropriate oval to indicate whether you are using a calculator; and

    (g) in Block G, sign your name and write today's date. If the answer sheet is not signed, it will not be graded.

    On side 2 of your answer sheet, space is provided at the top for the number of this examination book. Enter the examination book number, from the upper right-hand corner of this examination book, in the four boxes at the top of side 2 marked "BOOKLET NUMBER."

15. After the examination, the supervisor will collect this book and the answer sheet separately. DO NOT ENCLOSE THE ANSWER SHEET IN THE BOOK. All books and answer sheets must be returned. THE QUESTIONS ARE CONFIDENTIAL AND MAY NOT BE TAKEN FROM THE EXAMINATION ROOM

NOVEMBER 2007

EA2A EXAMINATION

GENERAL CONDITIONS, TABLES, AND FORMULAS

<u>Conditions Generally Applicable to All EA-2 (Segment A) Examination Questions</u>

If applicable, the following conditions should be considered a part of the data for each question, unless otherwise stated or implied:

For purposes of this examination, IRS, Treasury and PBGC releases granting disaster relief should be ignored.

***THE GENERAL CONDITIONS HAVE CHANGED SIGNIFICANTLY FROM PRIOR EXAMINATIONS. THE CANDIDATE IS CAUTIONED TO READ THROUGH THEM CAREFULLY.**

<u>General Conditions Regarding Plan Provisions</u>

(1) "Plan" or "pension plan" means a defined benefit pension plan.

(2) The plan is qualified under Internal Revenue Code ("IRC") section 401 Thus, for example, any benefit formulas should be understood to be limited by other plan provisions required by the Code.

(3) The plan is sponsored by a single employer; the sponsoring employer is not a member of a controlled group.

(4) The plan is not established or maintained in connection with a collectively bargained agreement.

(5) The plan year, the employer's limitation year, and the employer's tax year are all the calendar year.

(6) The normal retirement age is 65.

(7) Retirement pensions commence at normal retirement age and are paid monthly for life at the beginning of each month.

(8) The plan covers all active employees of the employer; there is no age or service requirement for participation. Thus, when referring to active employees, the terms "employee" and "participant" are synonymous.

(9) There are no, and never have been, mandatory or voluntary employee contributions.

(10) Service for purposes of vesting and benefit accrual is credited on the basis of time elapsed since date of hire.

(11) When the normal retirement benefit is computed as a dollar amount, or as a percentage of compensation, for each year of service, the accrued benefit is defined likewise.

(12) Qualified joint and survivor annuities and any other specified form of payment are provided in such manner that they result in no cost to the employer.

(13) The plan has not been top-heavy in any year.

(14) The plan has not been amended since its effective date.

(15) The adoption date of any plan or amendment is the same as its effective date.

General Conditions Regarding Funding

(16) Any actuarial valuation encompasses not only all active employees but also retired employees, beneficiaries, and former employees entitled to vested deferred pensions.

(17) The valuation date is the first day of the plan year; i.e., participant data, present values, asset values, etc. are as of that date. Also, normal costs are payable annually, the first being due on the valuation date.

(18) Unless otherwise specified, the assumed retirement age is the normal retirement age.

(19) Unless otherwise specified, there are no pre-retirement decrements.

(20) The actuarial cost method, or funding method, is "reasonable" within the meaning of all relevant IRC sections and the regulations thereunder.

(21) Where the normal cost under an actuarial cost method may be computed as either a level percentage of compensation or a level dollar amount, the level percentage approach is used if the plan benefits are based on compensation, and the level dollar approach is used if they are not.

(22) Under the frozen initial method, whenever there is a change in the plan, actuarial assumptions, or asset valuation method, the unfunded liability is adjusted by adding to it the increase (positive or negative) in the unfunded entry age normal accrued liability due to the change. Likewise, under the attained age normal method, the unfunded liability is adjusted by adding to it the increase in the unfunded unit credit accrued liability.

(23) All funding method changes after 1999 were made in accordance with Rev. Proc. 2000-40. Bases established because of funding method changes prior to 2000 are amortized over 10 years from the date established.

(24) Unless otherwise specified, the unit credit funding method is as defined in Rev. Proc. 2000-40.

(25) Unless otherwise specified, ancillary benefits are funded using the same method as the retirement benefits. They are not funded on a term cost basis.

(26) For purposes of spreading future normal costs under spread-gain methods, the present value of future compensation is not limited by IRC Section 401(a)(17).

(27) *The terms "value of plan assets", "actuarial value of assets" and "market value of assets" mean the values developed for purposes of IRC section 412, 430, and 431 before being adjusted for items such as the existing credit balance, funding standard carryover balance, prefunding balance, or the outstanding balances of certain bases.

(28) *The plan sponsor does not elect to reduce the amount of the funding standard carryover balance for 2008 pursuant to IRC section 430(f)(5) prior to the determination of the value of plan assets for the 2008 plan year or prior to the application of the balance in reducing the minimum required contribution for the 2008 plan year.

(29) *The plan sponsor elects to credit all contributions in excess of the minimum required contribution to the prefunding balance.

(30) *Where a prefunding or carryover balance exists, the plan was at least 80% funded in the prior year and is therefore eligible to credit the balance(s) against the otherwise-applicable minimum required contribution.

(31) *If eligible, the plan sponsor elects to credit the prefunding and carryover balances against the otherwise-applicable minimum required contribution.

(32) All actuarial assumptions are deemed "reasonable" and meet the "best estimate" criterion.

(33) *The actuarial cost method, asset valuation method, and actuarial assumptions have not been changed since the plan effective date except as required by PPA.

(34) *The term "**minimum required contribution**" means the smallest contribution for a plan year which will prevent a funding deficiency or unpaid minimum for that plan year, without regard to the alternative minimum funding standard account, and **before** reflecting items such as the existing credit balance, funding standard carryover balance, or prefunding balance, as applicable. Amounts to be amortized are not combined or offset against one another.

(35) *The term "**smallest amount that satisfies the minimum funding standard**" means the same as "minimum required contribution" **except** that it is determined **after** reflecting items such as the existing credit balance, funding standard carryover balance, or prefunding balance, as applicable. Amounts to be amortized are not combined or offset against one another.

(36) Additional funding charges and additional interest charges due to late quarterly contributions have never applied and there is no liquidity shortfall.

(37) No waivers of funding deficiencies or extensions of amortization periods have been granted.

(38) Unless otherwise specified, the interest rate used for amortizing waivers and for extensions of amortization periods is the same as the valuation interest rate.

(39) The employer is taxable, and all employer contributions for each prior plan year have been deducted by the employer for its tax year coincident with such plan year.

(40) For purposes of determining the deductible limit for any year, the employer does not use (and has never used) the fresh-start alternative and does not combine (and has never combined) amortization bases.

(41) The full funding limitation has never applied.

(42) Expenses are paid directly by the employer, rather than from the assets of the plan, and therefore do not affect the funding of the plan.

(43) Assumed compensation increases first apply to the year immediately following the latest year for which valuation compensation is shown.

(44) *The quarterly contribution requirement and the liquidity shortfall shall be disregarded for the purposes of the November, 2007 examination.

(45) The full funding limitations based on current liability shall be disregarded if sufficient information to determine such limitations is not provided.

(46) For purposes of determining the deductible limit, the unfunded current liability shall be disregarded if sufficient information to determine such liability is not provided.

(47) *The terms "at-risk funding target" and "at-risk target normal cost" mean the funding target and target normal cost calculated reflecting additional actuarial assumptions and loading factors (if applicable) for an at-risk plan **prior** to the application of any five-year transition as described in IRC Section 430(i)(5).

Miscellaneous General Conditions

(48) All plan provisions and funding calculations comply with all temporary and final regulations under the Internal Revenue Code and ERISA, as amended through June 30, 2007.

(49) The employer has never maintained a defined contribution plan.

(50) Where IRC section 401(a)(17) applies, compensations do not exceed these limits unless sufficient information to apply the limits is provided.

(51) *Benefits do not exceed IRC section 415 limits unless sufficient information to apply these limits is provided.

(52) All union plans are collectively bargained and all union employees are subject to collective bargaining.

(53) References to law and regulation section numbers are for clarity and can be assumed to be correct.

If applicable, the preceding conditions should be considered a part of the data for each question, unless otherwise stated or implied.

LIMITS, TABLES AND FORMULAS
(Included with the 2007 EA-2 (Segment A) examination)

Maximum Benefit Limit IRC section 415(b)	
Year	Limit at SSRA
1983-1987	90,000
1988	94,023
1989	98,064
1990	102,582
1991	108,963
1992	112,221
1993	115,641
1994	118,800
1995-1996	120,000
1997	125,000
1998-1999	130,000
2000	135,000
2001	140,000
Year	Limit at 65
2002-2003	160,000
2004	165,000
2005	170,000
2006	175,000
2007	180,000

Compensation Limit IRC section 401(a)(17)	
Year	Limit
1989	200,000
1990	209,200
1991	222,220
1992	228,860
1993	235,840
1994-1996	150,000
1997-1999	160,000
2000-2001	170,000
2002-2003	200,000
2004	205,000
2005	210,000
2006	220,000
2007	225,000

Highly Compensated Employee Compensation IRC section 414(q)	
Year	Limit
1997-1999	80,000
2000-2001	85,000
2002-2004	90,000
2005	95,000
2006	100,000
2007	100,000

Key Employee Compensation IRC section 416		
Year	Officer	1% owner
2003	130,000	150,000
2004	130,000	150,000
2005	135,000	150,000
2006	140,000	150,000
2007	145,000	150,000

Data for Question 1 (3 points)

Selected valuation results as of 1/1/2008:

Funding target	$1,400,000
Target normal cost	25,000
Shortfall amortization charge	45,000
Actuarial (market) value of assets	1,140,000

Amortization factor for the 1/1/2008 shortfall amortization installment: 5.9982.

The employer makes a single contribution of $X on 1/1/2008 in the **smallest amount that satisfies the minimum funding standard** for the 2008 plan year.

Question 1

In what range is $X?

(A) Less than $58,500

(B) $58,500 but less than $62,500

(C) $62,500 but less than $66,500

(D) $66,500 but less than $70,500

(E) $70,500 or more

Data for Question 2 (4 points)

Credit balance in funding standard account as of 12/31/2007: $7,550.

Selected information for the 2008 plan year:

Funding target	$1,100,000
Target normal cost	38,000
Shortfall amortization charge	33,500
Actuarial (market) value of assets	915,000
Effective interest rate	5.80%

The employer makes a single contribution of $X on 9/15/2009 in the **smallest amount that satisfies the minimum funding standard** for the 2008 plan year.

Question 2

In what range is $X?

(A) Less than $70,000

(B) $70,000 but less than $72,000

(C) $72,000 but less than $74,000

(D) $74,000 but less than $76,000

(E) $76,000 or more

Data for Question 3 (4 points)

Credit balance in the funding standard account as of 12/31/2007: $0.

Selected valuation results as of 1/1/2008:

Funding target	$1,000,000
Funding target reflecting expected future compensation increases	1,200,000
Target normal cost	80,000
At-risk funding target for IRC section 404 purposes	1,500,000
At-risk target normal cost for IRC section 404 purposes	80,000
Actuarial (market) value of assets	915,000
Effective interest rate	5.00%

The plan has always had over 500 participants.

Question 3

In what range is the deductible limit for 2008?

(A) Less than $750,000

(B) $750,000 but less than $850,000

(C) $850,000 but less than $950,000

(D) $950,000 but less than $1,050,000

(E) $1,050,000 or more

Data for Question 4 (5 points)

Valuation date: 1/1/2008.

Normal retirement benefit: $2,000 per year for each year of service.

Early retirement eligibility: Age 55 with 25 years of service.

Early retirement benefit: Accrued benefit payable immediately.

Valuation interest rates:
Segment rates (5%, 6%, 7%)

No pre-retirement mortality or withdrawal is assumed.

Data for participant Smith:

Date of birth	1/1/1963
Date of hire	1/1/1993

Selected commutation functions:

	Segment 1 rate		Segment 2 rate		Segment 3 rate	
Age	N_x	D_x	N_x	D_x	N_x	D_x
55	659,904	48,207	601,124	44,586	514,881	42,007
65	295,095	26,298	265,833	23,980	223,488	20,568

The plan is in at-risk status for the 2008 plan year.

Question 4

In what range is the at-risk funding target with respect to Smith prior to the loading factor as of 1/1/2008?

(A) Less than $195,000

(B) $195,000 but less than $210,000

(C) $210,000 but less than $225,000

(D) $225,000 but less than $240,000

(E) $240,000 or more

Data for Question 5 (2 points)

Credit balance in the funding standard account as of 12/31/2007: $0.

Selected valuation results as of 1/1/2008:

Funding target without regard to at-risk assumptions	$12,000,000
At-risk funding target	12,400,000
Actuarial (market) value of assets	6,000,000

The plan is in at-risk status for the 2008 plan year.

Question 5

In what range is the shortfall amortization base as of 1/1/2008?

(A) Less than $6,050,000

(B) $6,050,000 but less than $6,150,000

(C) $6,150,000 but less than $6,250,000

(D) $6,250,000 but less than $6,350,000

(E) $6,350,000 or more

Data for Question 6 (4 points)

Credit balance in the funding standard account as of 12/31/2007: $1,224,500.

Selected valuation results as of 1/1/2008:

Funding target	$12,000,000
Target normal cost	800,000
Actuarial (market) value of assets	11,000,000
Effective interest rate	5.70%

Amortization factor for the 1/1/2008 shortfall amortization installment: 5.9982.

Actual rate of return on plan assets during 2008: 4.89%.

Contribution for the 2008 plan year made on 12/31/2008: $10,000.

The plan sponsor elects to apply the minimum amount of the funding standard carryover balance necessary to meet the minimum funding standard.

Question 6

In what range is the maximum possible funding standard carryover balance as of 1/1/2009?

(A) Less than $56,250

(B) $56,250 but less than $61,250

(C) $61,250 but less than $66,250

(D) $66,250 but less than $71,250

(E) $71,250 or more

Data for Question 7 (2 points)

Normal retirement benefit: 10% of final 3-year average salary for each year of service up to 10 years of service.

Data for participant Smith:

Date of birth	1/1/1953
Date of hire	1/1/2004

Salary history:

2008	$280,000
2007	250,000
2006	170,000

Assumed 2008 IRC limits:

Section 401(a)(17) compensation limitation	$230,000
Section 415(b) dollar limitation	185,000

Question 7

In what range is Smith's accrued benefit as of 12/31/2008?

(A) Less than $90,000

(B) $90,000 but less than $100,000

(C) $100,000 but less than $110,000

(D) $110,000 but less than $120,000

(E) $120,000 or more

Data for Question 8 (3 points)

Credit balance in the funding standard account as of 12/31/2007: $0.

2008 segment rates: (5%, 5%, 6%).

2009 segment rates: (6%, 6%, 7%).

Selected valuation result as of 1/1/2008:

Shortfall amortization charge	$185,000

Selected valuation results as of 1/1/2009:

Funding target	$11,000,000
Actuarial (market) value of assets	10,500,000

The contribution for the 2008 plan year was equal to the **smallest amount that satisfies the minimum funding standard** for the 2008 plan year.

Question 8

In what range is the total shortfall amortization charge as of 1/1/2009?

(A) Less than $100,000

(B) $100,000 but less than $104,000

(C) $104,000 but less than $108,000

(D) $108,000 but less than $112,000

(E) $112,000 or more

Data for Question 9 (4 points)

Type of plan: Multiemployer plan.

Valuation interest rate: 7% per year.

Selected valuation results:	1/1/2007	1/1/2008
Accrued liability	\$550,000	\$700,000
Normal cost	100,000	110,000
Actuarial (market) value of assets	500,000	575,000

Benefit payments made on 7/1/2007: \$35,000.

Contribution for the 2007 plan year made on 9/1/2007: \$100,000.

The 1/1/2007 and 1/1/2008 valuation results were both prepared using the same actuarial assumptions and methods.

X = the ratio of the investment loss to the total actuarial loss during 2007.

Question 9

In what range is X?

(A) Less than 34%

(B) 34% but less than 36%

(C) 36% but less than 38%

(D) 38% but less than 40%

(E) 40% or more

Data for Question 10 (3 points)

Normal retirement eligibility: Age 62.

Early retirement eligibility: Age 60.

Early retirement benefit: $9,250 per month reduced by 4.55% per year by which the benefit commencement date precedes age 62.

Form of benefit: Single life annuity.

Data for participant Smith:

Date of birth	1/1/1948
Date of hire	1/1/2001
Date of participation	1/1/2002
Date of retirement	1/1/2008
Annual salary since 1/1/2001	$150,000

The following factors are based on IRC section 417(e) applicable mortality and 5% interest:

Age	$\ddot{a}_x^{(12)}$
60	13.25082
62	12.67978

Assumed IRC section 415(b) dollar limit for 2008: $185,000.

There is no forfeiture of benefits upon pre-retirement death.

Question 10

In what range is the maximum annual benefit Smith can receive?

(A) Less than $90,500

(B) $90,500 but less than $96,500

(C) $96,500 but less than $102,500

(D) $102,500 but less than $108,500

(E) $108,500 or more

Data for Question 11 (3 points)

Type of plan: Multiemployer plan.

Actuarial value of assets:

Prior to 2008	Smoothed market value (without phase-in) as defined in Rev. Proc. 2000-40 (smoothing differences between expected and actual market value of assets), with a 5-year smoothing period.
After 2007	Smoothed market value (without phase-in) as defined in Rev. Proc. 2000-40 (smoothing differences between expected and actual market value of assets), with a 2-year smoothing period.

Market value of assets as of 1/1/2008: $5,000,000.

Historical market value asset (gains) and losses:

Year	(Gain)/Loss
2007	($200,000)
2006	50,000
2005	200,000
2004	50,000
2003	(500,000)

Question 11

In what range is the absolute value of the change in the actuarial value of assets due to the method change?

(A) Less than $25,000

(B) $25,000 but less than $45,000

(C) $45,000 but less than $65,000

(D) $65,000 but less than $85,000

(E) $85,000 or more

Data for Question 12 (1 point)

For the 2008 plan year, the actuarial valuation date for all single-employer plans must be the first day of the plan year.

Question 12

Is the above statement true or false?

(A) True

(B) False

Data for Question 13 (4 points)

An additional funding charge was required for the 2007 plan year.

Credit balance in the funding standard account as of 12/31/2007: $500,000.

Selected valuation results as of 1/1/2008:

Funding target	$10,000,000
Target normal cost	2,000,000
Actuarial (market) value of assets	9,800,000

Amortization factor for the 1/1/2008 shortfall amortization installment: 5.9982.

The plan has always had more than 100 participants.

The employer makes a single contribution of $X on 1/1/2008 in the **smallest amount that satisfies the minimum funding standard** for the 2008 plan year.

Question 13

In what range is $X?

(A) Less than $1,500,000

(B) $1,500,000 but less than $1,600,000

(C) $1,600,000 but less than $1,700,000

(D) $1,700,000 but less than $1,800,000

(E) $1,800,000 or more

Data for Question 14 (5 points)

Type of plan: Multiemployer plan.

Plan effective date: 1/1/1995.

Average salary: Highest 3-year average salary out of the last five years.

Normal retirement benefit: 1% of average salary for each year of service.

Early retirement benefit: Normal retirement benefit reduced by 4% per year for the first 4 years and 6% per year for the next 6 years by which the benefit commencement date precedes age 65.

Actuarial cost method: Projected unit credit.

Selected actuarial assumptions:

Valuation interest rate	7% per year
Salary increases	3% per year
Retirement age	61

Data for participant Smith:

Date of birth	1/1/1949
Date of hire	1/1/1991
Date of retirement	1/1/2008

Salary history

2007	$63,000
2006	62,000
2005	60,000
2004	50,000
2003	51,000

Selected annuity values:

$\ddot{a}_{59}^{(12)} = 11.26$ $\ddot{a}_{61}^{(12)} = 10.88$

Question 14

In what range is the absolute value of the actuarial (gain)/loss as of 1/1/2008 due solely to Smith's retirement?

(A) Less than $2,500

(B) $2,500 but less than $7,500

(C) $7,500 but less than $12,500

(D) $12,500 but less than $17,500

(E) $17,500 or more

Data for Question 15 (4 points)

Type of plan: Multiemployer plan.

Actuarial cost method: Unit credit.

Valuation interest rate:

Before 2008	7.5% per year
After 2007	7.0% per year

Credit balance in the funding standard account as of 12/31/2007: $0.

Information for all pre-2008 funding standard account amortization bases as of 1/1/2008:

Nature of base	Outstanding base	Remaining years
Plan amendment	$377,201	29
Actuarial (gain)/loss	(547,550)	14

Experience loss during 2007: $100,000.

Increase as of 1/1/2008 due to the change in the valuation interest rate:

Accrued liability	$190,000
Normal cost	20,000

A single contribution of $X is to be made on 1/1/2008 in the **smallest amount that satisfies the minimum funding standard** for the 2008 plan year.

Question 15

In what range is absolute value of the change in $X due to the change in the valuation interest rate?

(A) Less than $34,500

(B) $34,500 but less than $39,500

(C) $39,500 but less than $44,500

(D) $44,500 but less than $49,500

(E) $49,500 or more

Data for Question 16 (2 points)

This question consists of an assertion in the left-hand column and a reason in the right-hand column.

ASSERTION
The valuation interest rates used for a multiemployer plan must be the full yield curve or three-segmented yield curve used to determine the minimum required contribution for single employer plans.

REASON
Assumptions for a multiemployer plan must each be reasonable, and in combination, offer the actuary's best estimate of anticipated experience under the plan.

Question 16

Which of the following statements is true regarding the determination of the 2008 **minimum required contribution**?

(A) Both the assertion and the reason are true statements and the reason is a correct explanation of the assertion.

(B) Both the assertion and the reason are true statements and the reason is NOT a correct explanation of the assertion.

(C) The assertion is a true statement, but the reason is a false statement.

(D) The assertion is a false statement, but the reason is a true statement.

(E) Both the assertion and the reason are false statements.

Data for Question 17 (5 points)

Type of plan: Multiemployer plan.

Plan effective date: 1/1/2005.

Actuarial cost method: Frozen initial liability.

Valuation interest rate: 7% per year.

Current liability interest rate: 6% per year.

Credit balance in the funding standard account as of 12/31/2006: $0.

Selected valuation results as of 1/1/2007:

Normal cost	$200,000
Unfunded accrued liability	800,000
Market value of assets	450,000
Actuarial value of assets	500,000
Accrued liability under the entry age normal method	1,000,000
Normal cost under the entry age normal method	100,000
Current liability	540,000
Expected increase in current liability due to benefits accruing during the plan year	200,000
Expected benefit payments	0

Contribution for 2007 made on 7/1/2007: $900,000.

Question 17

In what range is the excise tax due to the contribution in excess of the deductible limit for 2007?

(A) Less than $25,000

(B) $25,000 but less than $40,000

(C) $40,000 but less than $55,000

(D) $55,000 but less than $70,000

(E) $70,000 or more

Data for Question 18 (4 points)

Plan effective date: 1/1/1993.

Normal retirement benefit: 2% of final year salary for each year of service.

Assumptions:

Interest rates	Segment rates (6%, 6%, 7%)
Salary increases	5% per year

Credit balance in the funding standard account as of 12/31/2007: $5,000.

Actuarial (market) value of assets at 1/1/2008: $60,000.

Data for sole plan participant:

Date of birth	1/1/1963
Date of hire	1/1/1993
2007 salary	$100,000

Selected actuarial factors:

Interest Rate	$\ddot{a}_{65}^{(12)}$
6%	9.00
7%	8.00

The employer does not elect to decrease the funding standard carryover balance or apply it against the **minimum required contribution**.

Question 18

In what range is the **minimum required contribution** for the 2008 plan year as of 1/1/2008?

(A) Less than $4,600

(B) $4,600 but less than $7,600

(C) $7,600 but less than $10,600

(D) $10,600 but less than $13,600

(E) $13,600 or more

Data for Question 19 (5 points)

Normal retirement benefit: 2% of final year salary for each year of service.

Early retirement benefit: None.

Assumptions:

Interest rates	Segment rates (6%, 6%, 7%)
Salary increases	5% per year

Credit balance in the funding standard account as of 12/31/2007: $1,000.

Actuarial (market) value of assets at 1/1/2008: $40,000.

Data for sole plan participant:

Date of birth	1/1/1963
Date of hire	1/1/1993
2007 salary	$60,000

Selected actuarial factors:

Interest Rate	$\ddot{a}_{65}^{(12)}$
6%	9.00
7%	8.00

Question 19

In what range is the deductible limit for the 2008 tax year?

(A) Less than $30,000

(B) $30,000 but less than $47,500

(C) $47,500 but less than $65,000

(D) $65,000 but less than $82,500

(E) $82,500 or more

Data for Question 20 (4 points)

Normal retirement benefit: 2% of final year salary for each year of service.

Assumptions:

Interest rates	Segment rates (6%, 6%, 7%)
Salary increases	5% per year

Credit balance in funding standard account as of 12/31/2007: $1,000.

Actuarial (market) value of assets at 1/1/2008: $28,000.

Data for sole plan participant:

Date of birth	1/1/1968
Date of hire	1/1/1997
2007 salary	$80,000

Selected actuarial factors:

Interest Rate	$\ddot{a}_{65}^{(12)}$
6%	9.00
7%	8.00

The employer does not elect to decrease the funding standard carryover balance or apply it against the **minimum required contribution**.

Question 20

In what range is the **minimum required contribution** for the 2008 plan year as of 1/1/2008?

(A) Less than $2,000

(B) $2,000 but less than $3,500

(C) $3,500 but less than $5,000

(D) $5,000 but less than $6,500

(E) $6,500 or more

Data for Question 21 (4 points)

Credit balance in funding standard account as of 12/31/2007: $10,000.

Selected valuation results as of 1/1/2008:

Funding target	$1,000,000
Target normal cost	100,000
Actuarial (market) value of assets	900,000
Effective interest rate	5.75%

Amortization factor for the shortfall amortization installment: 5.9982.

Actual return on plan assets for 2008: 15%.

Contribution made for 2008 on 12/31/2008: $200,000.

The entire carryover balance is used to reduce the **minimum required contribution**.

$X = the amount as of 12/31/2008 by which the contribution exceeds the **smallest amount that satisfies the minimum funding standard**.

Question 21

In what range is $X?

(A) Less than $84,500

(B) $84,500 but less than $85,250

(C) $85,250 but less than $86,000

(D) $86,000 but less than $86,750

(E) $86,750 or more

Data for Question 22 (1 point)

Selected valuation results as of 1/1/2008:

Funding target based on at-risk assumptions	$1,000,000
Actuarial (market) value of assets	770,000
Carryover balance	60,000

The plan has always had over 500 participants.

Consider the following statement:

The plan is in at-risk status for the 2009 plan year.

Question 22

Is the above statement true or false?

(A) True

(B) False

Data for Question 23 (3 points)

Interest rates: Segment rates (5%, 6%, 7%).

Expected benefit payments at the beginning of the year for all years:

Year	Expected Benefit Payments
1	$ 1,000
2	0
3	0
4	0
5	5,000
6	0
7	0
8	0
9	19,500
10	0

Question 23

In what range is the effective interest rate for 2008?

(A) Less than 5.20%

(B) 5.20% but less than 5.45%

(C) 5.45% but less than 5.70%

(D) 5.70% but less than 5.95%

(E) 5.95% or more

Data for Question 24 (2 points)

An employer sponsors a defined benefit plan and a profit sharing plan. Both plans are in the top-heavy mandatory aggregation group. The aggregated plans are top-heavy.

Consider the following statements regarding participants covered by both plans:

I. The top-heavy minimum is deemed satisfied by a 3% allocation in the profit sharing plan.

II. The top-heavy minimum is deemed satisfied by a profit sharing allocation that is at least comparable under Revenue Ruling 81-202 to a defined benefit top-heavy minimum.

III. The top-heavy minimum is deemed satisfied by providing a defined benefit top-heavy minimum offset by the benefits provided under the profit sharing plan.

Question 24

Which, if any, of the above statement(s) is (are) true?

(A) I and II only

(B) I and III only

(C) II and III only

(D) I, II, and III

(E) The correct answer is not given by (A), (B), (C), or (D) above.

Data for Question 25 (2 points)

Consider the following statements regarding the minimum funding requirements for multiemployer plans for plan years beginning after 12/31/2007:

I. The amortization period is 15 years for the change in liability due to all plan amendments effective on or after 1/1/2008.

II. The alternative minimum funding standard account no longer applies.

III. Assumptions must be individually reasonable.

Question 25

Which, if any, of the above statement(s) is (are) true?

(A) I and II only

(B) I and III only

(C) II and III only

(D) I, II, and III

(E) The correct answer is not given by (A), (B), (C), or (D) above.

Data for Question 26 (2 points)

This question consists of an assertion in the left-hand column and a reason in the right-hand column.

ASSERTION	REASON
It is not necessary to consider the probability of participants electing a lump sum option when setting the assumptions for determining minimum funding requirements.	The funding target cannot reflect the interest rate subsidy, if any, inherent in lump sum distributions.

Question 26

Which of the following statements is true?

(A) Both the assertion and the reason are true statements and the reason is a correct explanation of the assertion.

(B) Both the assertion and the reason are true statements and the reason is NOT a correct explanation of the assertion.

(C) The assertion is a true statement, but the reason is a false statement.

(D) The assertion is a false statement, but the reason is a true statement.

(E) Both the assertion and the reason are false statements.

Data for Question 27 (2 points)

An additional funding charge was required for the 2007 plan year.

The 2008 funding target attainment percentage is 78%, determined without regard to the at-risk rules.

The 2008 funding target attainment percentage is 67%, determined using the additional actuarial assumptions for at-risk plans.

The plan has always had more than 500 participants.

Consider the following statement:

> The plan is in at-risk status for the 2009 plan year.

Question 27

Is the above statement true or false?

(A) True

(B) False

Data for Question 28 (4 points)

Type of plan: Multiemployer.

Plan effective date: 1/1/1992.

The benefit formula was increased for all service effective 1/1/2008.

Valuation date: 1/1/2008.

Actuarial cost method: Unit credit.

Valuation interest rate: 7% per year.

Credit balance in funding standard account as of 12/31/2007: $60,000.

Accrued liability after plan amendment as of 1/1/2008: $9,710,000.

Actuarial (market) value of assets as of 1/1/2008: $9,238,000.

Funding standard account amortization data as of 1/1/2008:

Outstanding balance of pre-2008 amortization bases	$15,000
Experience loss during 2007	110,000

Question 28

In what range is the absolute value of the amortization amount in the funding standard account due to the plan amendment as of 1/1/2008?

(A) Less than $30,000

(B) $30,000 but less than $34,000

(C) $34,000 but less than $38,000

(D) $38,000 but less than $42,000

(E) $42,000 or more

Data for Question 29 (3 points)

Type of plan: Multiemployer.

Plan effective date: 1/1/1984.

Actuarial cost method: Entry age normal.

Valuation interest rate: 7% per year.

Credit balance in funding standard account as of 12/31/2007: $75,500.

Actuarial (market) value of assets as of 1/1/2008: $991,600.

Information on all funding standard account amortization bases as of 1/1/2008:

Outstanding balance of pre-2007 bases	$404,600
Amortization of experience loss during 2007	6,770
Amortization of 2008 change in assumptions	8,180

Question 29

In what range is the accrued liability as of 1/1/2008?

(A) Less than $1,460,000

(B) $1,460,000 but less than $1,490,000

(C) $1,490,000 but less than $1,520,000

(D) $1,520,000 but less than $1,550,000

(E) $1,550,000 or more

Data for Question 30 (3 points)

Plan effective date: 1/1/1984.

Funding standard carryover balance as of 1/1/2008: $125,000.

Selected valuation data as of 1/1/2008:

Funding target	$5,000,000
Target normal cost	200,000
Actuarial (market) value of assets	4,200,000

Amortization factor for the 1/1/2008 shortfall amortization installment: 5.9982.

The employer makes a single contribution of $X on 1/1/2008 in the **smallest amount that satisfies the minimum funding standard** for the 2008 plan year.

Question 30

In what range is $X?

(A) Less than $214,000

(B) $214,000 but less than $222,000

(C) $222,000 but less than $230,000

(D) $230,000 but less than $238,000

(E) $238,000 or more

Data for Question 31 (4 points)

Type of plan: Multiemployer plan.

Valuation interest rate: 7% per year.

Valuation data for retired participant Smith as of 1/1/2007:

Date of birth	1/1/1947
Retirement date	1/1/2002
Monthly benefit	$1,250
Payment form selected	Life and 10 year certain

Smith died on 12/31/2007.

Selected commutation functions:

Age	D_x	$N_x^{(12)}$
60	16,285	187,842
61	15,127	171,557
65	11,154	117,315
66	10,305	106,161

Question 31

In what range is the absolute value of the mortality (gain)/loss during 2007 due to Smith's death?

(A) Less than $113,000

(B) $113,000 but less than $114,000

(C) $114,000 but less than $115,000

(D) $115,000 but less than $116,000

(E) $116,000 or more

Data for Question 32 (2 points)

Consider the following statements concerning the funding of single employer defined benefit plans under PPA:

I. Beginning 1/1/2008, the carryover balance may be used to reduce a plan's **minimum required contribution** only if the plan meets certain funding requirements.

II. Beginning 1/1/2008, the actuarial value of assets must be between 90% and 110% of the fair market value of assets.

III. Beginning 1/1/2008, a single blended interest rate may be used to determine the plan's target normal cost.

Question 32

Which, if any, of the above statement(s) is (are) true?

(A) I and II only

(B) I and III only

(C) II and III only

(D) I, II, and III

(E) The correct answer is not given by (A), (B), (C), or (D) above.

Data for Question 33 (5 points)

Type of plan: Multiemployer plan.

Normal retirement benefit: 2% of final three-year average salary per year of service.

Early retirement eligibility: Age 63.

Early retirement benefit: Accrued benefit, reduced by 5% for each year by which the benefit commencement date precedes age 65. The accrued benefit will not be reduced if the participant has at least 25 years of service.

Selected actuarial assumptions:

Valuation interest rate	7% per year	
Compensation increases	3% per year	
Retirement rates	Age	Rate
	63	0.25
	64	0.50
	65	1.00

Data for participant Smith:

Date of birth	1/1/1955
Date of hire	1/1/1994
Compensation during 2007	$17,000

Selected annuity values: $\ddot{a}_{63}^{(12)} = 12.36$ $\ddot{a}_{64}^{(12)} = 11.49$ $\ddot{a}_{65}^{(12)} = 10.60$

Question 33

In what range is the present value of future benefits for Smith as of 1/1/2008?

(A) Less than $58,500

(B) $58,500 but less than $59,500

(C) $59,500 but less than $60,500

(D) $60,500 but less than $61,500

(E) $61,500 or more

Data for Question 34 (4 points)

Type of plan: Multiemployer plan.

Normal retirement benefit: $35 per month per year of service.

Early retirement eligibility: Age 55 and 10 years of service.

Early retirement benefit: Accrued benefit reduced 1/180th per month for the first 60 months and 1/360th per month for the next 60 months by which the benefit commencement precedes age 65.

Actuarial cost method: Unit credit.

Selected actuarial assumptions:

Valuation interest rate 7% per year

Retirement rates	Age	Rate
	55	0.40
	62	0.80
	65	1.00

Data for participant Smith:

Date of birth	1/1/1959
Date of hire	1/1/1985

Selected annuity values:

$\ddot{a}_{55}^{(12)} = 13.66$ $\ddot{a}_{62}^{(12)} = 12.85$ $\ddot{a}_{65}^{(12)} = 10.50$

Question 34

In what range is the accrued liability for Smith as of 1/1/2008?

(A) Less than $40,000

(B) $40,000 but less than $52,000

(C) $52,000 but less than $64,000

(D) $64,000 but less than $76,000

(E) $76,000 or more

Data for Question 35 (3 points)

Plan effective date: 1/1/1990.

An additional funding charge was required for the 2007 plan year.

Credit balance in funding standard account as of 12/31/2007: $10,000.

Selected valuation results as of 1/1/2008:

Funding target	$1,050,000
Target normal cost	49,000
Actuarial value of assets	990,000
Market value of assets	940,000

Amortization factor for the 1/1/2008 shortfall amortization installment: 5.9982.

The employer makes a single contribution of $X on 1/1/2008 in the **smallest amount that satisfies the minimum funding standard** for the 2008 plan year.

Question 35

In what range is $X?

(A) Less than $34,000

(B) $34,000 but less than $42,000

(C) $42,000 but less than $50,000

(D) $50,000 but less than $58,000

(E) $58,000 or more

Data for Question 36 (3 points)

An additional funding charge was required for the 2007 plan year.

Credit balance in the funding standard account as of 12/31/2007: $20,000.

Selected valuation results as of 1/1/2008:

Funding target without regard to at-risk assumptions	$600,000
Funding target reflecting additional actuarial assumptions for at-risk plans	700,000
Actuarial (market) value of assets	580,000
Effective interest rate	7.0%

The number of plan participants has never exceeded 500.

Consider the following statements:

I. The plan sponsor may elect to apply any remaining funding standard carryover balance against the 2009 **minimum required contribution**.

II. The plan is considered at-risk for 2009.

III. The plan is subject to a shortfall amortization charge in 2008.

Question 36

Which, if any, of the above statement(s) is (are) true?

(A) I and II only

(B) I and III only

(C) II and III only

(D) I, II, and III

(E) The correct answer is not given by (A), (B), (C), or (D) above.

Data for Question 37 (3 points)

The plan was not subject to IRC section 412(*l*) for the 2007 plan year.

Credit balance in the funding standard account as of 12/31/2007: $5,000.

Selected valuation results as of 1/1/2008:

Funding target	$1,050,000
Target normal cost	49,000
Actuarial value of assets	990,000
Market value of assets	930,000

Amortization factor for the 1/1/2008 shortfall amortization installment: 5.9982.

The employer makes a single contribution of $X on 1/1/2008 in the **smallest amount that satisfies the minimum funding standard** for the 2008 plan year.

Question 37

In what range is $X?

(A) Less than $45,000

(B) $45,000 but less than $49,000

(C) $49,000 but less than $53,000

(D) $53,000 but less than $57,000

(E) $57,000 or more

Question 38 (1 point)

Consider the following statement regarding a defined benefit plan determined to be in at-risk status in the 2008 plan year.

> The at-risk funding target must be determined using the assumption that all employees who are not otherwise assumed to retire as of the valuation date but who will be eligible to elect benefits in the plan year or in the next 10 succeeding plan years will retire at the earliest date permitted under the plan, but not before the last day of the 2008 plan year.

Question 38

Is the above statement true or false?

(A) True

(B) False

Data for Question 39 (1 point)

Consider the following statement regarding a defined benefit plan with a funding standard carryover balance on 1/1/2009.

> The unused portion of the funding standard carryover balance is adjusted from 1/1/2008 to 1/1/2009 using the effective interest rate for the 2008 plan year.

Question 39

Is the above statement true or false?

(A) True

(B) False

Data for Question 40 (5 points)

Interest rates as of 1/1/2008:

Current liability basis, reflecting pre-PPA rules	5.78%
Segment rates ignoring IRC section 430(h)(2)(G)	(5%, 6%, 7%)

Credit balance in the funding standard account as of 12/31/2007: $0.

Data for participant Smith as of 1/1/2008:

Benefit commencement date	1/1/2006
Monthly benefit	$1,750
Form of benefit selected	10-year certain only

The employer has not elected to forego the interest rate transition rules in IRC section 430(h)(2)(G).

Question 40

In what range is the funding target for Smith as of 1/1/2008?

(A) Less than $136,100

(B) $136,100 but less than $136,400

(C) $136,400 but less than $136,700

(D) $136,700 but less than $137,000

(E) $137,000 or more

Data for Question 41 (3 points)

Assume that, as of 2013, a defined benefit plan has the following history:

Year	Funding target attainment percentage	At-risk funding attainment percentage
2010	74%	65%
2011	78%	68%
2012	79%	71%
2013	78%	69%

Consider the following statements:

I. The plan was in at-risk status for 2011.

II. The plan was in at-risk status for 2012.

III. The plan was in at-risk status for 2013.

Question 41

Which, if any, of the above statement(s) is (are) true?

(A) I and II only

(B) I and III only

(C) II and III only

(D) I, II, and III

(E) The correct answer is not given by (A), (B), (C), or (D) above.

Data for Question 42 (3 points)

An additional funding charge was required for the 2007 plan year.

Credit balance in funding standard account as of 12/31/2007: $100,000.

Selected valuation results as of 1/1/2008:

Funding target	$5,500,000
Target normal cost	200,000
Actuarial (market) value of assets	5,000,000
Effective interest rate	5.75%

Amortization factor for the 1/1/2008 shortfall amortization installment: 5.9982.

The employer makes a single contribution of $X on 12/31/2008 in the **smallest amount that satisfies the minimum funding standard** for the 2008 plan year.

Question 42

In what range is $X?

(A) Less than $200,000

(B) $200,000 but less than $210,000

(C) $210,000 but less than $220,000

(D) $220,000 but less than $230,000

(E) $230,000 or more

Data for Question 43 (4 points)

Type of plan: Multiemployer plan.

Actuarial cost method: Unit credit.

Form of benefit:

While participant is alive	$100,000 per year payable on 1/1 of each year
After participant dies	$50,000 per year payable on 1/1 of each year to the retiree's beneficiary

Valuation interest rate: 7% per year.

Data for retired participant Smith:

Date of birth	1/1/1937
Beneficiary's date of birth	1/1/1940

Selected annuity values:

$\ddot{a}_{67} = 8.30 \qquad \ddot{a}_{68} = 8.10 \qquad \ddot{a}_{70} = 7.60 \qquad \ddot{a}_{71} = 7.40 \qquad \ddot{a}_{67:70} = 6.10$

Smith receives the scheduled $100,000 payment on 1/1/2007.

$X = mortality gain if Smith survives to 1/1/2008, but his beneficiary dies during 2007.

$Y = mortality gain if Smith dies during 2007, but his beneficiary survives to 1/1/2008.

Question 43

In what range is the absolute value of the sum of $X + $Y?

(A) Less than $500,000

(B) $500,000 but less than $575,000

(C) $575,000 but less than $650,000

(D) $650,000 but less than $725,000

(E) $725,000 or more

Data For Question 44 (1 point)

Consider the following statement:

PPA requires that the funding target for a plan in at-risk status be calculated under the assumption that all active participants will elect a joint & survivor form of benefit at the earliest retirement age permitted under the plan.

Question 44

Is the above statement true or false?

A) True

B) False

Data for Question 45 (4 points)

Plan effective date: 1/1/1984.

Type of plan: Multiemployer plan.

Actuarial cost method: Unit credit.

Valuation interest rate: 7% per year.

Credit balance in the funding standard account as of 12/31/2007: $3,000.

Selected information on all outstanding pre-2008 amortization bases as of 1/1/2008:

Net outstanding balance	$45,900
Net amortization charge	9,000

The benefit formula was increased for all service effective 1/1/2008. The formula change increased both the accrued liability and the normal cost by 10%.

Selected valuation results as of 1/1/2008 (before plan changes):

Accrued liability	$270,000
Normal cost	22,000
Actuarial (market) value of assets	250,000

The employer makes a single contribution of $X on 12/31/2008 in the **smallest amount that satisfies the minimum funding standard** for the 2008 plan year.

Question 45

In what range is $X?

(A) Less than $32,500

(B) $32,500 but less than $35,000

(C) $35,000 but less than $37,500

(D) $37,500 but less than $40,000

(E) $40,000 or more

Data for Question 46 (3 points)

The plan was not subject to IRC section 412(*l*) for the 2007 plan year.

Credit balance in the funding standard account as of 12/31/2007: $2,000.

Selected valuation results as of 1/1/2008:

Funding target	$115,000
Target normal cost	12,250
Actuarial (market) value of assets	107,000
Effective interest rate	6.00%

Amortization factor for the 1/1/2008 shortfall amortization installment: 5.9982.

The employer makes a single contribution of $X on 12/31/2008 in the **smallest amount that satisfies the minimum funding standard** for the 2008 plan year.

Question 46

In what range is $X?

(A) Less than $10,500

(B) $10,500 but less than $11,000

(C) $11,000 but less than $11,500

(D) $11,500 but less than $12,000

(E) $12,000 or more

Data for Question 47 (3 points)

Consider the following three defined benefit plans maintained by three unrelated employers:

	Plan X	Plan Y	Plan Z
Funding standard carryover balance as of 1/1/2008	$12,000	$0	$4,000
1/1/2008 funding target without regard to at-risk assumptions	112,000	106,000	95,000
1/1/2008 funding target determined using the additional actuarial assumptions for at-risk plans	125,000	124,000	118,000
Actuarial value of assets as of 1/1/2008	74,000	85,000	64,000
Number of plan participants during each day of 2008	950	750	550
Number of plan participants as of 1/1/2009	1,000	750	450

Question 47

Which, if any, of the above plans is (are) considered to be in at-risk status for 2009?

(A) Plans X and Y only

(B) Plans X and Z only

(C) Plans Y and Z only

(D) Plans X, Y, and Z

(E) The correct answer is not given by (A), (B), (C), or (D) above.

Data for Question 48 (3 points)

The plan was not subject to IRC section 412(*l*) for the 2007 plan year.

Credit balance in funding standard account as of 12/31/2007: $12,000.

Selected valuation results as of 1/1/2008:

Funding target	$64,000
Target normal cost	21,000
Actuarial (market) value of assets	60,000
Effective interest rate	6.00%

Amortization factor for the 1/1/2008 shortfall amortization installment: 5.9982.

The employer makes a single contribution of $X on 12/31/2008 in the **smallest amount that satisfies the minimum funding standard** for the 2008 plan year.

Question 48

In what range is $X?

(A) Less than $10,000

(B) $10,000 but less than $11,000

(C) $11,000 but less than $12,000

(D) $12,000 but less than $13,000

(E) $13,000 or more

Data for Question 49 (1 point)

A multiemployer plan that is classified as Seriously Endangered cannot pay lump sum payments or any other form of accelerated payment.

Question 49

Is the above statement true or false?

(A) True

(B) False

Data for Question 50 (3 points)

An additional funding charge was required for the 2007 plan year.

Credit balance in funding standard account as of 12/31/2007: $20,000.

Selected valuation results as of 1/1/2008:

Funding target	$1,650,000
Target normal cost	44,800
Actuarial (market) value of assets	1,680,000
Effective interest rate	5.75%

Amortization factor for the 1/1/2008 shortfall amortization installment: 5.9982.

The employer makes a single contribution of $X on 12/31/2008 in the **smallest amount that satisfies the minimum funding standard** for the 2008 plan year.

Question 50

In what range is $X?

(A) Less than $16,000

(B) $16,000 but less than $26,000

(C) $26,000 but less than $36,000

(D) $36,000 but less than $46,000

(E) $46,000 or more

Data for Question 51 (4 points)

Normal retirement benefit: $10 per month times years of service.

Valuation interest rates:

Segment rates	(5%, 6%, 7%)
Effective rate	5.75%

Data for active participants as of 1/1/2008:

Number	Age	Service
100	50	20

Funding target as of 1/1/2008 attributable to inactive plan participants: $750,000.

Selected commutation values:

	5.00% Interest		6.00% Interest		7.00% Interest	
Age	$N_x^{(12)}$	D_x	$N_x^{(12)}$	D_x	$N_x^{(12)}$	D_x
65	4,108	368	2,052	199	1,035	108
70	2,534	263	1,220	136	593	70
85	292	59	126	26	55	12

Question 51

In what range is the funding target as of 1/1/2008?

(A) Less than $1,620,000

(B) $1,620,000 but less than $1,650,000

(C) $1,650,000 but less than $1,680,000

(D) $1,680,000 but less than $1,710,000

(E) $1,710,000 or more

2007 EA-2A Examination Answer Key

Question	Answer		Question	Answer
1	B		41	A
2	B		42	C
3	C		43	B
4	B		44	B
5	B		45	B
6	C		46	B
7	B		47	B
8	C		48	A
9	D		49	B
10	B		50	A
11	C		51	B
12	B			
13	C			
14	B			
15	B			
16	D			
17	A			
18	B			
19	D			
20	B			
21	C			
22	B			
23	D			
24	C			
25	C			
26	E			
27	B			
28	D			
29	B			
30	C			
31	D			
32	A			
33	C			
34	B			
35	D			
36	B			
37	A			
38	A			
39	B			
40	A			