

1982

Data for Question 37

Plan effective date: 1/1/81.

Actuarial cost method: Entry age normal method.

Assumed mortality basis: 1971 Group Annuity Mortality (GAM).

Participant data as of 1/1/81:

<u>Attained Age X</u>	<u>q_x</u>	<u>Number of Participants</u>
49	.004	1,000
50	.005	2,000
51	.006	1,000

Consider the following statements:

- I. If 21 participants die during 1981, this must cause a gain.
- II. If, effective 1/1/82, the assumed mortality basis is changed to 1971 GAM projected to 1980, this must cause a decrease in accrued liability.
- III. If, effective 1/1/82, a withdrawal assumption is introduced, this must cause a decrease in accrued liability.

Question 37

Which, if any, of these statements is (are) true?

- (A) I only
- (B) III only
- (C) I and III only
- (D) II and III only
- (E) The correct answer is not given by (A), (B), (C) or (D) above.

1991

Data for Question 2

Data for all retirees as of 1/1/90:

	<u>Smith</u>	<u>Brown</u>
Age	60	70
Annual benefit	\$54,000	\$24,000
Status as of 12/31/90	Alive	Deceased

Benefits are payable as of 1/1 of each year.

All deaths within a year are assumed to occur at the end of the year.

Selected probabilities of death and annuity values:

<u>x</u>	<u>q_x</u>	<u>\bar{a}_x</u>
60	.020	9.52
61	.022	9.30
70	.040	7.28
71	.044	7.00

Question 2

In what range is the mortality experience gain for 1990 due to the two retirees?

- (A) Less than \$140,000
- (B) \$140,000 but less than \$145,000
- (C) \$145,000 but less than \$150,000
- (D) \$150,000 but less than \$155,000
- (E) \$155,000 or more

2014

Data for Question 28 (3 points)

Type of plan: Multiemployer.

Actuarial cost method: Unit credit.

Valuation date: 1/1/2015.

Annual normal retirement benefit: \$60 per month for each year of service, payable monthly.

Early retirement benefit: Accrued benefit reduced by 3% for each year prior to age 65.

Valuation interest rate: 6.0%.

Data for plan participant Smith:

Gender	Male
Date of birth	1/1/1952
Date of hire	1/1/1994
Date of retirement	12/31/2014

$\$X$ is the absolute value as of 1/1/2015 of the total gain or loss attributable to Smith's retirement.

Question 28

In what range is $\$X$?

- (A) Less than \$10,000
- (B) \$10,000 but less than \$15,000
- (C) \$15,000 but less than \$20,000
- (D) \$20,000 but less than \$25,000
- (E) \$25,000 or more

2015

Data for Question 28 (3 points)

Type of plan: Multiemployer.

Actuarial cost method: Unit credit.

Valuation date: 1/1/2016.

Valuation interest rate: 6.0%.

Selected data for retired participant Smith:

Gender	Male
Date of birth	1/1/1950
Date of retirement	1/1/2015
Date of death	12/31/2015
Monthly benefit	\$1,000
Form of annuity	10-year certain and life

Question 28

In what range is the gain as of 1/1/2016 due to Smith's death?

- (A) Less than \$40,000
- (B) \$40,000 but less than \$43,000
- (C) \$43,000 but less than \$46,000
- (D) \$46,000 but less than \$49,000
- (E) \$49,000 or more