

1990

Data for Question 11

Actuarial cost method: Entry age normal (level dollar amount).

Assumed retirement age: 65.

Data for sole participant:

Date of birth	1/1/45
Date of hire	1/1/75
Status as of 1/1/90	Active

Projected annual benefit as of 1/1/90: B.

Level annual cost from age 30: P.

Consider the following expressions for the accrued liability for retirement benefits as of 1/1/90:

$$\text{I. } P \times \frac{(N_{30} - N_{45})}{D_{45}}$$

$$\text{II. } B \times \frac{N_{65}^{(12)}}{D_{45}} - P \times \frac{(N_{45} - N_{65})}{D_{45}}$$

$$\text{III. } B \times \frac{N_{65}^{(12)}}{D_{45}} \times \frac{N_{30} - N_{45}}{N_{30} - N_{65}}$$

Question 11

Which, if any, of these expressions is (are) correct?

- (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.

2003

Data for Question 2 (1 point)

Plan effective date: 1/1/2003.

Normal retirement benefit: \$30 per month per year of service.

Valuation interest rate: 7% per year.

Data for sole participant:

Date of birth      1/1/1973

Date of hire        1/1/2003

Consider the following statement.

The normal cost as of 1/1/2003 using the entry age cost method is greater than the normal cost using the unit credit cost method.

Question 2

Is the above statement true or false?

(A) True

(B) False

2004

Data for Question 12 (3 points)

Plan effective date: 1/1/1990.

Actuarial cost method: Entry age normal.

Normal retirement benefit: 5% of final pay per year of service (maximum of 20 years).

Selected actuarial assumptions:

Valuation interest rate	7% per year
Compensation increases	3.5% per year

Data for participant Smith:

Date of birth	1/1/1942
Date of hire	1/1/2003

Projected retirement benefit at age 65: \$1,000 per month.

Selected annuity value:

$$\ddot{a}_{65}^{(12)} = 12.41$$

Question 12

In what range is Smith's normal cost as of 1/1/2004?

- (A) Less than \$31,000
- (B) \$31,000 but less than \$36,000
- (C) \$36,000 but less than \$41,000
- (D) \$41,000 but less than \$46,000
- (E) \$46,000 or more

2014

Data for Question 43 (5 points)

Type of plan: Multiemployer.

Valuation date: 1/1/2015.

Normal retirement benefit: 50% of final compensation.

Actuarial cost method: Entry age normal.

Valuation interest rate: 7.0%.

Assumed compensation increase: 3.0% per year.

Selected information for participant Smith:

Date of birth	1/1/1965
Date of hire	1/1/2000
2014 compensation	\$50,000

Selected annuity factor:

$$\ddot{a}_{65}^{(12)} = 10.11$$

Question 43

In what range is Smith's accrued liability as of 1/1/2015?

- (A) Less than \$85,000
- (B) \$85,000 but less than \$90,000
- (C) \$90,000 but less than \$95,000
- (D) \$95,000 but less than \$100,000
- (E) \$100,000 or more

2015

Data for Question 3 (3 points)

Type of plan: Multiemployer.

Annual normal retirement benefit: \$1,000 per year of service.

Actuarial cost method: Entry age normal.

Valuation interest rate: 7.0%.

Selected data for participant Smith:

Gender	Male
Date of birth	1/1/1955
Date of hire	1/1/2015

Question 3

In what range is the accrued liability for Smith as of 1/1/2016?

- (A) Less than \$8,000
- (B) \$8,000 but less than \$8,300
- (C) \$8,300 but less than \$8,600
- (D) \$8,600 but less than \$8,900
- (E) \$8,900 or more

2015

Data for Question 39 (4 points)

Type of plan: Multiemployer.

Normal retirement benefit: 2.5% of highest year of compensation per year of service.

Actuarial cost method: Entry age normal.

Valuation interest rate: 7.0%.

Assumed compensation increases: 4.0% per year.

Selected data for participant Smith:

Date of birth	1/1/1959
Date of hire	1/1/2014
2014 compensation	\$67,300
2015 compensation	70,000

Selected annuity value:  $\ddot{a}_{65}^{(12)} = 12.41$ .

Question 39

In what range is the normal cost for Smith as of 1/1/2016?

- (A) Less than \$18,000
- (B) \$18,000 but less than \$19,000
- (C) \$19,000 but less than \$20,000
- (D) \$20,000 but less than \$21,000
- (E) \$21,000 or more