

City of Omaha Police Officer Examination Results

The purpose of this document is to provide information regarding the procedures used to derive candidates' Final Score on the Omaha Police Officer Examination components.

Note: The capped letters in brackets correspond to the variables in the table on the next page.

Candidates' participated in the following examination components:

Multiple-Choice Examination – The Multiple-Choice Examination consisted of three sections – an Ability Test, a Work Styles Questionnaire, and a Life Experience Survey. Section I, the Ability Test, consisted of multiple-choice questions designed to test a series of abilities determined to be important to the effective performance of police officers. Section II, the Work Styles Questionnaire, was designed to assess work related preferences and approaches to situations determined to be important to the effective performance of police officers. Finally, Section III, the Life Experience Survey, consisted of a series of multiple-choice questions related to candidates' past history and experience determined to be important to the effective performance of police officers. Candidates' responses across all three sections contributed to their Multiple-Choice Examination Score. Multiple-Choice Examination scores ranged from 44.34722 to 100.00000.

Physical Ability Test – The Physical Ability Test was a pass/fail test.

Structured Oral Interview – The Structured Oral Interview consisted of a series of interview questions that tapped the competencies underlying effective police officer performance. Candidates' performance on this examination component was rated on three competency factors by each assessor comprising the assessment board. A Candidate's Structured Oral Interview Score was computed by averaging the ratings provided across assessors to obtain three average competency scores, and then summing the three average competency scores. Structured Oral Interview scores ranged from 37.94364 to 100.00000.

Explanation of Procedures used to Derive Candidates' Final Score

A Candidate's Final Score for the Police Officer Examination was calculated by combining his or her Multiple-Choice Examination Score [A] and the Structured Oral Interview Score [B]. Because the two scores differed in the range of possible scores, a statistical transformation referred to as standardization was applied to assure that each score was weighted correctly to determine a Candidate's Final Score. If scores were not standardized, it would be like adding together the scores from a football game and a baseball game and then trying to make sense of that total score. The use of standardized scores represents the most technically sound and well-accepted practice for combining scores that vary in their score distributions.

Standardization was accomplished by converting Candidates' test scores to z-scores. A z-score is based on a Candidate's individual test score, the mean (or average score) of all the test scores, and the standard deviation of all the test scores. Z-scores have a mean of 0.00000 and a standard deviation of 1.00000. It is important to note that transforming scores to z-scores for any test in an examination does not affect a Candidate's rank. For example, if a Candidate received the third-highest Structured Oral Interview Score, that Candidate would also receive the third-highest Structured Oral Interview z-score.

Once the scores from the two examination components were standardized to z-scores to produce a Candidate's Multiple-Choice Examination Standardized Score [C] and Structured Oral Interview Standardized Score [D], deriving his or her Final Score with Vet Points [I] reflecting his or her overall examination performance involved the following steps:

- The designated weights (60% Multiple-Choice Examination, 40% Structured Oral Interview) were applied to each standardized test score and the weighted scores were added together to produce a Final Composite Score [E].

- The Final Composite Score was standardized to a z-score to produce the Final Standardized Score [F] and prepare for rescaling.
- The Final Standardized Score was rescaled to produce a Final Rescaled Score [G] on a scale of 50-100 that is more meaningful to candidates.

In short, the score ranges for each examination component, as well as the final scores, are different and reflect the application of appropriate statistical procedures required when combining scores from tests that vary in their score distributions. Thus, a Candidate's Final Score can have a value that is lower than either of the two individual test scores he or she achieved.

The table and description below allow computation of a Candidate's Final Score (with Vet Points if applicable) from the Multiple-Choice Examination Score and Structured Oral Interview Score reported to him to her.

Calculating a Candidate's Scores on the Examination

Multiple-Choice Examination Score (as Reported)	[A]
Structured Oral Interview Score (as Reported)	[B]
Multiple-Choice Examination Standardized Score	[C]
Structured Oral Interview Standardized Score	[D]
Final Composite Score	[E]
Final Standardized Score	[F]
Final Rescaled Score	[G]
Vet Points	[H]
Final Score with Vet Points	[I]
Final Score (as Reported)	[J]

1. **Multiple-Choice Examination Standardized Score** [C] – The general formula for calculating the Multiple-Choice Examination Standardized Score is as follows: (A Candidate's Multiple-Choice Examination Score [A] – 82.53658) / 7.33953)

The Multiple-Choice Examination Score was standardized across the final group of candidates by taking each Multiple-Choice Examination Score and subtracting the overall mean and dividing by the overall standard deviation. This calculation was necessary to ensure the Multiple-Choice Examination Score is weighted 60%.

2. **Structured Oral Interview Standardized Score** [D] – The general formula for calculating the Structured Oral Interview Standardized Score is as follows: (A Candidate's Structured Oral Interview Score [B] - 79.22096) / 9.88897)

The Structured Oral Interview Score was standardized across the final group of candidates by taking each Structured Oral Interview Score and subtracting the overall mean and dividing by the overall standard deviation. This calculation is necessary to ensure the Structured Oral Interview Score is weighted 40%.

3. **Final Composite Score** [E] – The general formula for calculating the Final Composite Score is as follows: (Multiple-Choice Examination Standardized Score [C] X 60%) + (Structured Oral Interview Standardized Score [D] X 40%)

The Multiple-Choice Examination Standardized Score was weighted 60% and the Structured Interview Standardized Score was weighted 40%. The two components were then added together to compute a Final Composite Score.

4. **Final Standardized Score** [F] – The general formula for calculating the Final Standardized Score is as follows: $(\text{Final Composite Score [E]} - 0.0000) / 0.76695$

The Final Composite Score was standardized across the final group by taking the Final Composite Score and subtracting the overall mean and dividing by the overall standard deviation. This calculation is necessary to rescale the Final Composite Score to a range of 50 to 100 before vet points are added.

5. **Final Rescaled Score** [G] – The general formula for calculating the Final Rescaled Score is as follows: $(\text{Final Standardized Score [F]} \times 10.79156) + 72.57815$

To rescale the Final Standardized Score to a range of 50-100, it is multiplied by the overall group standard deviation and added to an overall group mean to produce the Final Rescaled Score.

6. **Final Score with Vet Points** [I] – The general formula for calculating the Final Score with Vet Points is as follows: $(\text{Final Rescaled Score [G]} + \text{Vet Points [H]})$

The Final Score with Vet Points is the Final Rescaled Score with the addition of veteran points where applicable.

General Note: The formulas that appear in this explanation have been rounded for reporting purposes only. More precise values were used and carried throughout the actual computation of final scores. Therefore, when inserting the rounded values reported here in the formulas presented in this document to calculate the scores, the scores derived may be off from the scores reported by 10,000ths or 100,000ths of a point (i.e., in the 4th or 5th decimal place).