

Answer:

It is necessary to understand the relationship between raw scores and scale scores to appreciate the seeming anomaly.

Range:

Two things, the number of items and the difficulty of the items that make up a standard, determine the *range* of possible scale scores.

- The longer the test, the wider the range of scale scores.
- The easier the test, the lower the maximum scale score.
- For any given person, the raw score for the total test is the sum of the raw scores for the standards, BUT the total scale score is not the sum, nor the average of the standard scale scores.
- There is no mathematical relationship between the average of the scale scores for the standards and the average overall scale score.

Impact of hard and easy items:

The relationship between raw scores and scale scores is designed to eliminate the effect of taking a hard test or an easy test, or the fact that the items from one standard may be easier than the items from another standard.

- Students would need fewer correct responses on a “harder” standard to achieve the same scale score they would get by having more correct responses on an “easier” standard.

OR

- Answering 70% of the items correctly on a “harder” standard represents a higher level of ability than answering 70% of the items correctly on an “easier” standard.
- The raw score to scale score conversion levels the playing field, removing the impact of harder items or easier items in a given standard.
- The total test scale score is not a simple average of the standard scale scores.
 - The relationship is much too complex to be described by an average that ignores the number of items in each test and the average difficulty of the items making up that standard.

Question:

Is it possible for a student to answer all of the items correctly in a standard and not get the highest possible scale score (600)?

Answer:

Yes.

- A perfect score in a standard with easier items will translate into a lower scale score than a perfect score in a standard with harder items.
 - Both maximum scores may be less than the maximum score for the overall test.
 - This is due to the distribution of item difficulties and the number of items.
 - It is easier to answer 11 of 11 items correctly in a single standard than it is to answer 64 of 64 items correctly on the entire test.
 - The scale score for answering all of the items correctly on a standard will necessarily represent less ability than answering all of the items correctly on the overall test.
 - Although the scale score span goes from 100 to 600, it does not mean it is possible to get the highest or lowest scale score on every standard or even the overall test.



Comprehensive System of Student Assessment (CSSA)



**Guide to Test Interpretation for the
High School Graduation Qualifying Examination
Retest
For Parents and Students
Fall 2011**

Explanation of Examinations and Scoring

The Purpose of Testing

The purpose of the High School Graduation Qualifying Examination (HSGQE) is to determine student competency in the areas of reading, writing, and mathematics. The HSGQE provides this information in the form of test scores that reflect the essential skills that students should have as a result of their public school experience. The requirement to pass the HSGQE in order to earn a high school diploma has been in effect since 2004.

Components of the HSGQE

Each subject-area test on the HSGQE contains multiple-choice questions with four possible answer choices. These answers are machine-scored. Constructed-response questions allow students to demonstrate their skills in more complex levels of thinking, and are scored by a professional staff experienced in providing reliable and consistent hand scoring. All constructed-response questions allow for full or partial credit.

The following content areas are covered in the HSGQE:

Reading

The questions on the reading subject-area test assess skills such as reading comprehension, identification and support for main ideas, application of multi-step directions, ability to make and support assertions, and analysis and evaluation of themes. Multiple-choice questions target specific skills, and constructed-response questions allow students to elaborate on and to make comparisons among various aspects of the texts. Excerpts from published literature are the basis for evaluating reading skills.


Writing

The writing skills assessed on this examination include writing compositions, using conventions of Standard English (spelling, grammar, capitalization, and punctuation), and revising writing to improve expression. Multiple-choice questions evaluate specific aspects of writing skill, and constructed-response writing prompts ask students to write and edit narrative, descriptive, and persuasive essays on various topics.

Mathematics

The questions on the mathematics subject-area test assess computation skills; reading, interpreting, and constructing graphs; and principles of geometry and measurement. Students will use a ruler and a protractor for a portion of the subject-area test. Procedures such as estimation and mental computation are interwoven throughout this examination.

- C** Describes the proficiency levels reported in section B. Scores on the HSGQE are grouped into two proficiency levels. The skills necessary for a student to be proficient are described on the back of the Student Report, along with the range of scale scores associated with each level.
- D** Describes the scale scores reported in section B. The scale score earned by the student determines the student's proficiency level of proficient or not proficient on the HSGQE. The points earned are converted into a scale score that takes into consideration the fact that some items that make up a standard on the test are more difficult than others. Therefore, a student can earn the same raw score on two standards and end up with two different scale scores. For this reason, you cannot divide the points earned by the points possible for a standard to derive the scale score.
- E** Lists the Performance Standard categories grouped by the three subject-area tests.
- F** Lists the total points possible for the Performance Standard categories on the tests.
- G** Lists the points earned by the student for the Performance Standards in each subject-area test. Points earned are not valid for comparisons across grades, subjects, and/or standards due to variations among tests. The same raw score on two standards usually results in two different scale scores depending on the number of questions and the difficulty of the questions. For this reason, you cannot divide the points earned by the points possible to determine meaningful percentages.
- H** Lists the scale score equivalent for points earned.
- I** Explains the information found in the probable scale score range chart (J).
- J** Graphically illustrates the student's scale score (♦), the student's 80% confidence interval for Performance Standards and total tests, and the proficiency cut score for the total tests.



**HIGH SCHOOL GRADUATION QUALIFYING EXAMINATION (HSGQE)
ALASKA COMPREHENSIVE SYSTEM OF STUDENT ASSESSMENT (CSSA)
STUDENT REPORT
2011 FALL RETEST**

STUDENT NAME : LAST NAME, FIRST NAME MIDDLE NAME DISTRICT : ALASKA DISTRICT GRADE : 12
 BIRTHDATE : 99/99/9999 SCHOOL : ALASKA HIGH SCHOOL STATE ID NUMBER : 9999999999
 DISTRICT ID NUMBER : 9999999999

Your Student's Overall Performance			
Student's Scale Score	Student's Proficiency Level	Proficient Scale Score	
Reading 453	Proficient	287	
Writing 386	Proficient	304	
Mathematics 508	Proficient	328	

Your Student's Performance by Standard			
Subject/Standard	Points Possible	Points Earned	Scale Score Earned
Reading	65	57	453
R4.1 Use Context Clues	9	9	529
R4.2 Summarize Information; Make Connections	18	18	595
R4.3 Support Main Idea; Critique Arguments	12	9	550
R4.4 Read and Apply Multi-Step Directions	8	7	488
R4.7 Make and Support Assertions	10	10	600
R4.8 Analyze and Evaluate Themes	8	6	403
Writing	66	47	386
W4.1 Write Compositions; Demonstrate Elements of Discourse	36	24	396
W4.3 Use Conventions of Standard English	16	12	375
W4.4 Revise Writing	14	11	382
Mathematics	50	47	508
M1.4 Numeration	9	9	526
M2.4 Measurement	9	9	527
M3.4 Estimation & Computation	8	8	522
M4.4 Functions & Relationships	8	8	546
M5.3 Geometry	8	7	494
M6.3 Statistics/Probability	8	6	410

STANDARDS SKILL PERFORMANCE
 This report provides a record of Your Student's test results on the HSGQE in reading, writing, and mathematics.
Proficiency Levels
 Scores on the HSGQE are grouped into two proficiency levels. The skills necessary for a student to be proficient are described on the back of the Student Report along with the range of scale scores associated with each level.
Scale Score
 The scale score earned by the student determines the student's performance level of Proficient or not Proficient on the HSGQE. The points earned are converted into a scale score that takes into consideration the fact that some items that make up a standard on the test are more difficult than others. Therefore, a student can earn the same raw score on two standards and end up with two different scale scores. For this reason, you cannot divide the points earned by the points possible for a standard to derive the scale score.
Skills Performance
 Reading, writing, and mathematics are composed of different skills. The chart on the right shows how Your Student did on these skills.
Interpretation of Chart
 Scale scores are represented by the diamond (♦). For each subject, the chart displays where the proficient cut score lies within the possible scale score range (100 - 600). Scores in the shaded area indicate not proficient, whereas scores in the non-shaded area indicate proficient.
 For example, Your Student's scale score in Reading is 453. Note that the diamond representing this score falls in the Proficient scale score range. If Your Student were to take a similar test multiple times, the range of these scores would fall between 417 and 489 (as represented by the line) 80% of the time.

* Highest level of assessed performance standards

99-999999 99/99/99 99:99

* **SAMPLE REPORT:** This sample report is not based on the current administration.

Reading the Student Report

- A** Presents student demographics.
- B** Indicates the student's scale score and proficiency level in reading, writing, and mathematics.
 In order to be considered proficient, the student must score on or above the Alaska Proficient Scale Score.

Frequently Asked Questions

Subject/Standard		Points Possible*	Points Earned*	Scale Score Earned*
Reading		65	65	600
R4.1	Use Context Clues	9	9	529
R4.2	Summarize Information; Make Connections	18	18	595
R4.3	Support Main Idea; Critique Arguments	12	12	550
R4.4	Read and Apply Multi-Step Directions	8	8	477
R4.7	Make and Support Assertions	10	10	600
R4.8	Analyze and Evaluate Themes	8	8	558

* This illustration is not based on the current administration.

Question:

In the HSGQE reading subject-area test, the maximum **overall** scale score is 600. However, the six maximum subject/standard scale scores are 529, 595, 550, 477, 600, and 558. How can these six numbers combine into a higher number (600) than five of the six numbers?