

SAT/ACT Standard Setting & Conversion Tables

SAT/ACT Empirical Approach to Standard Setting

Background

Oklahoma has enacted recent legislation aimed at raising student educational attainment and helping to ensure students are ready for their next step, whether that step is the next grade level, course, college, or career. Specifically, SB 1197 requires summative assessments to determine performance levels as indicators of a student's educational goals. Assessments must be administered in grades three through eight, and at the secondary level. SB 1197 requires four performance level categories (i.e., Below Basic, Basic, Proficient, and Advanced) and defines each of these categories as follows:

1. Advanced, which shall indicate that students demonstrate superior performance on challenging subject matter;
2. Proficient, which shall indicate that students demonstrate mastery over challenging grade-level subject matter, can analyze and apply such knowledge to real-world situations, that students are ready for the next grade, course, or level of education, as applicable and that students are on track to be ready for college or career;
3. Basic, which shall indicate that students demonstrate partial mastery of the essential knowledge and skills appropriate to that are foundational for Proficient work at their grade level or course and that students are not on track to be ready for college or career; and
4. Below Basic, which shall indicate that students have not performed at least at the Basic level.

The standard setting panel was tasked with setting cut scores for the high school English Language Arts (ELA) and math tests given in 11th grade. At this grade level, what it means for students to be 'ready for the next grade, course, or level of education' is very much wrapped up in what it means to be college- or career-ready. Thus, a key focus of this standard setting was on college and technical college readiness.

In short, the present standard setting focused on determining the three cut-scores that best separated the above four categories. This was done for both mathematics and ELA. Panels of experts were assembled for each subject, and a modified version of the Briefing Book Approach (described below) was used to determine the best cut-scores.

Summary of the Briefing Book Approach

The briefing book method (BBM) is a standard setting method usable when an exam has already been administered. Haertel, Beimers, and Miles (2012) describe a modified version of the BBM which was followed. The method tasks panelists with viewing a range of potential cut-scores, and weighing each against each other by using available data. One major advantage of this method is that the focus is on future student performance, rather than specific content. Because the current standard setting is designed to classify students based on college/career readiness, the focus should be on future student performance.

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The current standard setting sought to set cut-points on the SAT exam. As a major focus of testing will be on determining whether students are college ready, the SAT serves as an existing measure with great utility. In Oklahoma, districts are given the choice of administering the SAT or ACT. Cut scores set on the SAT can be translated to the ACT using the concordance tables published jointly by the College Board and ACT (College Board & ACT (2018)).

In the briefing book method, panelists are shown data related to test scores in order to determine the optimal cut score for each category. In the current standard setting, participants viewed data from multiple sources, attempting to weigh the importance of each in determining a given cut-point. That is to say that, in some cases, one criteria may be viewed as more important by panelists than another criteria, resulting in a different cut-score than would have been obtained if the weights had been shifted. In order to prevent the undesired effect of having panelists base their judgments on preconceived notions of the SAT and ACT test scores, a new scale was created ranging from 100 to 200, which was paired with each possible entry in the concorded ACT/SAT scales. The reason a new scale was created was to avoid the possibility that panelists came in with predetermined ideas of where the cut scores should be on a known scale. Panelists were provided data at each point of this 100-200 scale, and instructed to use the data to select the cut scores that best reflected their beliefs about what each level should represent relative to this data. Participants were initially shown six distinct pieces of data:

- 1-3) the probability that an examinee with a given score would obtain a C, B, or A (respectively) or higher in a relevant introductory college course during their first fall semester;
- 4) the probability that a student with a given score enrolls in an institute of higher learning (two-year, four-year, or both);
- 5) the average college GPA (1st semester and 1st year) of a student with a given score;
- 6) the probability an examinee with a given score declares a STEM or an ELA major;

Following initial cut-score decisions by the panelists, as well as a second round of discussion and cut-score decisions, participants were then shown two additional pieces of information:

- 7) the corresponding SAT and ACT test scores; and
- 8) the percentage of Oklahoma students at or above a given score point.

In order to produce equivalent scores for both the SAT and the ACT, the number of discrete scores was limited by the possible discrete scores of SAT for English, and by the ACT scale for math. Specifically, the ACT exam is scored from 1 to 36, and thus the sum of the ACT Reading and ACT English scores was taken in order to equate ACT scores to the SAT Evidence Based Reading and Writing (EBRW). Thus there are $36 \times 2 = 72$ possible score points on the ACT sum, but only 61 on the SAT (200 to 800 inclusive, with discrete scores at every increment of 10). Data provided to participants on English Language Arts (ELA) is based on SAT data on the EBRW.

ELA Performance Level Claims

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Below Basic. Indicates that students have not performed at least at the Basic level.

Basic. Students at this level have a 60% or higher probability of earning a C or higher in credit-bearing history, literature, social sciences, or writing classes across all levels of higher education. The average first year college GPA at this level is between a 2.4 to 2.7. Students at this level likely require additional coursework and/or support to be on track for success in college or career.

Proficient. Students at this level have approximately an 80% or higher probability of earning a C or higher in credit-bearing history, literature, social sciences, or writing classes at all levels of higher education. The average first year college GPA at this level is between a 2.8 and 3.3. Students at this level are likely to be on track for success in college or career.

Advanced. Students at this level have a 92% probability of earning a C or higher and a 71% probability of earning a B or higher in credit-bearing history, literature, social sciences, or writing classes at 4-year institutions. The average first year college GPA at this level is a 3.2 or above. This score is also the mean score of students who earn a three on the Advanced Placement (AP) exam in Literature: the minimum necessary to receive college credit. Students at this level are highly likely to be on track for success in college or career.

Math Performance Level Claims

Below Basic. Indicates that students have not performed at least at the Basic level.

Basic. Students at this level have a 50% or higher probability of earning a C or higher in credit-bearing math courses across all levels of higher education. Their average first year college GPA at this level is between a 2.4 to 2.8 (mid to high C student). Students at this level likely require additional coursework and/or support to be on track for college and/or career success.

Proficient. Students at this level have approximately a 75% or higher probability of earning a C or higher in credit-bearing math courses at all levels of higher education. Their average first year college GPA at this level is between a 2.9 and 3.3. Students at this level are likely to be on track to be successful at the next level.

Advanced. Students at this level have a 86% probability of earning a C or higher and a 61% probability of earning a B or higher in credit-bearing math courses at 4-year institutions. Their average first year college GPA at this level is a 3.3 or above. This score is also the mean score of students who earn a three on the Advanced Placement (AP) exam in A/B Calculus: the minimum necessary to receive college credit. Students at this level are highly likely to be on track to be successful at the next level.

CEQA

The Commission on Educational Quality and Accountability (CEQA) reviewed the cut scores on August 15, 2018 and approved the panelist-recommended cut scores for Basic and Proficient and the adjusted cut scores for Advanced to be used in the Oklahoma state accountability system.

SAT/ACT to OPI Scale Score Conversion Tables

Oklahoma ACT Math Score	Oklahoma SAT Math Score	Oklahoma CCRA OPI Math Score	Performance Level
1	200	200	Below Basic
2	200	200	Below Basic
3	200	200	Below Basic
4	200	200	Below Basic
5	200	200	Below Basic
6	200	200	Below Basic
7	200	200	Below Basic
8	210	203	Below Basic
9	250	214	Below Basic
10	260	216	Below Basic
11	280	222	Below Basic
12	310	231	Below Basic
13	330	237	Below Basic
14	360	246	Below Basic
15	400	258	Basic
16	430	267	Basic
17	470	280	Basic
18	500	290	Basic
19	510	293	Basic
20	520	297	Basic
21	530	300	Proficient
22	540	303	Proficient
23	560	310	Proficient
24	580	317	Proficient
25	590	321	Proficient
26	610	328	Proficient
27	640	338	Proficient
28	660	346	Advanced
29	680	353	Advanced
30	700	361	Advanced
31	710	364	Advanced
32	720	368	Advanced
33	740	376	Advanced
34	760	383	Advanced
35	780	391	Advanced
36	800	399	Advanced

Oklahoma ACT ELA Score	Oklahoma SAT ELA Score	Oklahoma CCRA OPI ELA Score	Performance Level
2	200	200	Below Basic
3	200	200	Below Basic
4	200	200	Below Basic
5	200	200	Below Basic
6	200	200	Below Basic
7	200	200	Below Basic
8	200	200	Below Basic
9	200	200	Below Basic
10	230	209	Below Basic
11	250	216	Below Basic
12	270	222	Below Basic
13	270	222	Below Basic
14	290	228	Below Basic
15	300	232	Below Basic
16	310	235	Below Basic
17	320	238	Below Basic
18	330	241	Below Basic
19	340	244	Below Basic
20	350	248	Below Basic
21	360	251	Below Basic
22	370	254	Below Basic
23	380	257	Below Basic
24	390	261	Basic
25	400	264	Basic
26	410	267	Basic
27	420	270	Basic
28	430	274	Basic
29	440	277	Basic
30	450	280	Basic
31	460	283	Basic
32	470	287	Basic
33	480	290	Basic
34	490	293	Basic
35	500	297	Basic
36	500	297	Basic
37	510	300	Proficient
38	520	303	Proficient
39	530	307	Proficient
40	540	310	Proficient
41	550	313	Proficient
42	560	317	Proficient
43	570	320	Proficient

44	580	323	Proficient
45	580	323	Proficient
46	590	327	Proficient
47	600	330	Proficient
48	610	334	Proficient
49	610	334	Proficient
50	620	337	Proficient
51	630	340	Proficient
52	640	344	Advanced
53	640	344	Advanced
54	650	347	Advanced
55	660	351	Advanced
56	660	351	Advanced
57	670	354	Advanced
58	680	357	Advanced
59	680	357	Advanced
60	690	361	Advanced
61	700	364	Advanced
62	710	368	Advanced
63	720	371	Advanced
64	730	375	Advanced
65	740	378	Advanced
66	750	382	Advanced
67	770	389	Advanced
68	770	389	Advanced
69	790	395	Advanced
70	790	395	Advanced
71	790	395	Advanced
72	790	395	Advanced

The Oklahoma ELA OPI composite score is calculated using an Oklahoma-specific formula: SAT [ERW (.85) + Essay (.15)] or ACT 2 x [Reading (.425) + English (.425)+ Writing (.15)] and can now be found in the SDE Single Sign-on in the Accountability Reporting application and is available in the MyData section of the WAVE. The Oklahoma weighting of the writing portion aligns with the progression between grade level bands based upon the Oklahoma Academic Standards.

Both SAT and ACT calculate their national ELA composite score using different formulas.

The Oklahoma ELA score used for the OPI scale score transformation is available in MyData.

SAT Math Scale: 200-800 | ACT Math Scale: 1-36

SAT EBRW Scale: 200-800 | ACT ELA Scale 1-72 (Oklahoma weighted score)