

**State Board of Education and Early Development**  
**Agenda**  
**July 25, 2018**  
**Audio-conference Meeting**  
**1-844-586-9085**  
**State Board Room**  
**Department of Education & Early Development**  
**801 West 10<sup>th</sup> Street**  
**Juneau, AK 99801**

**Mission Statement:** *An excellent education for every student every day.*

**Wednesday, July 25, 2018**

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**2:00 PM**

Call to Order and Roll Call .....James Fields, Chair

Pledge of Allegiance .....James Fields, Chair

Adoption of Agenda for July 25, 2018 .....James Fields, Chair

Disclosures of potential conflicts of interest.....James Fields, Chair

**2:10 PM**

Public Comment

Public comment is open on agenda and non-agenda items. Comment at this oral hearing is limited to three minutes per person and five minutes per group. The public comment period is an opportunity for the board to hear the public’s concerns. The board will not engage in discussions with members of the public during the comment period.

**Public comment can be made for this meeting, during this time only, by calling 1-844-586-9085 if you are outside of Juneau or Anchorage. For participation from Juneau, call 586-9085. For participation from Anchorage, call 563-9085.** This meeting will be streamed through the Legislative Information Office over <http://www.alaskalegislature.tv/> beginning at 2:00 pm on July 25, 2018. Click on the meeting name to listen to the proceedings. When public comment is over, the meeting will continue to be broadcast at the above web site.

**In the event there are more than two hours of public comment, the board may move to amend the agenda to extend the oral hearing to accommodate those present before 2:00 p.m. who did not have an opportunity to comment.** The board also reserves the right to adjourn at a later time.

## **Work Session**

### **3:00 PM**

1. Commissioner's Report .....Dr. Michael Johnson, Commissioner
2. Assessment Scores Discussion.....Dr. Michael Johnson, Commissioner  
.....Deb Riddle, Division Operations Manager, Student Learning  
.....Luann Weyhrauch, Assistant Attorney General

### **3:30 PM - BREAK**

## **Business Meeting**

### **3:45 PM**

3. Adoption of Proposed Regulations.....Dr. Michael Johnson, Commissioner
  - 3A. Assessment Scores.....Deb Riddle, Division Operations Manager, Student Learning  
.....Luann Weyhrauch, Assistant Attorney General

### **4:00 PM** Adjourn

**To: Members of the State Board of  
Education and Early Development**

**July 25, 2018**

**From: Dr. Michael Johnson, Commissioner**

**Agenda Item:1**

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**◆ ISSUE**

This is a standing oral report to the board by the Commissioner.

**◆ BACKGROUND**

- The board will hear a report on the Commissioner's activities.
- Commissioner Johnson will be present to brief the board.

**◆ OPTIONS**

This is an information item. No action is required.

**To: Members of the State Board of  
Education & Early Development**

**July 25, 2018**

**From: Michael Johnson, Commissioner**

**Agenda Item: 2**

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◆ **ISSUE**

The board is being asked to adopt amendments to regulations related to assessment achievement level scores on the Performance Evaluation for Alaska's Schools assessments in grade 9 math.

◆ **BACKGROUND**

- The board adopted changes to regulation 4 AAC 06.737 on July 14, 2017 to require districts to administer the Performance Evaluation for Alaska's Schools (PEAKS) English language arts (ELA) and mathematics assessments annually to every student in grades three through eight and in one or more years, as determined by the commissioner, in grades nine through twelve. The commissioner determined that Alaska would administer the ELA and Mathematics assessments in grade 9 only beginning in 2018.
- The score ranges for the four achievement levels (far below proficient, below proficient, proficient, and advanced) are adopted in regulations. The grade 9 ELA assessment for 2018 did not change, and the score ranges will remain the same. The score ranges for grade 10 ELA and mathematics are proposed to be removed from the regulations.
- Score ranges for grades 3–10 mathematics were established in 2017 through a process called “standard setting.” The methodology was reviewed and approved by the Alaska Technical Advisory Committee in 2017. In school year 2017–18, the grade 9 mathematics test was revised to emphasize Algebra I concepts, and the grade 10 mathematics test was retired. Accordingly, a new standard setting was needed for grade 9 mathematics. To promote consistency with the other tests of mathematics, the same standard setting methodology was used in 2018 to recommend cut scores for grade 9.
- On May 22–23, 2018, a committee of 14 Alaska educators participated in the Alaska PEAKS standard setting for grade 9 mathematics. The goal of the workshop was to recommend cut scores which would determine the score ranges for the four achievement levels for the test. The process is described in the attached document.
- An internal team of department staff reviewed the recommendations from the panels of educators with Commissioner Johnson. After consideration, the department team made minor technical adjustments to the recommended cut scores that fell within 1 standard error of measurement from the panelists' recommended scores. It was important to the department team to honor the work and professional judgment of the Alaskan educators. It was also important to reflect the reality of the performance of Alaska's students on the new standards
- Behind this cover memo are 1) a description of the standard setting process including the impact data showing the estimated percentage of students scoring at each achievement

level based on the recommended score ranges, 2) the proposed regulations, and 3) public comment.

- A public notice was published on the State of Alaska website on-line public notice as well as published in the Anchorage Daily News on June 12, 2018.
- No public comments were received by the time the board packet was put together or by July 16, 2018, which was the close of the public comment period.
- Deborah Riddle, Student Learning Division Operations Manager, will be present to brief the board.

◆ **OPTIONS**

This is a work session item. Action will take place under Agenda Item 3A.

4 AAC 06.739 (b) is amended to read:

(b) Achievement levels for English language arts and mathematics are advanced, proficient, below proficient, or far below proficient. Students obtaining achievement levels of proficient or advanced meet standards. To obtain an achievement level of advanced, proficient, below proficient, or far below proficient in English language arts and mathematics, a student must obtain a score as set out in the following table:

Achievement Level	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	[GRADE 10]
English language arts: Advanced	542 - 600	538 - 600	548 - 600	551 - 600	546 - 600	541 - 600	535 - 600	[535-600]
English language arts: Proficient	500 - 541	500 - 537	500 - 547	500 - 550	500 - 545	500 - 540	500 - 534	[500-534]
English language arts: Below Proficient	464 - 499	468 - 499	464 - 499	473 - 499	471 - 499	469 - 499	471 - 499	[470-499]
English language arts: Far Below Proficient	400 - 463	400 - 467	400 - 463	400 - 472	400 - 470	400 - 468	400 - 470	[400-469]
Mathematics: Advanced	554 - 600	559 - 600	568 - 600	554 - 600	559 - 600	562 - 600	<b>562-600</b> [570-600]	[568-600]
Mathematics: Proficient	500 - 553	500 - 558	500 - 567	500 - 553	500 - 558	500 - 561	<b>500-561</b> [500-569]	[500-567]
Mathematics: Below Proficient	458 - 499	460 - 499	462 - 499	454 - 499	451 - 499	448 - 499	<b>451-499</b> [450-499]	[445-499]

Mathematics: Far Below Proficient	400 - 457	400 - 459	400 - 461	400 - 453	400 - 450	400 - 447	<b>400-450</b> [400-449]	[400-444]
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(Eff. 3/16/2001, Register 157; am 11/23/2003, Register 168; am 9/4/2005, Register 175; am 5/18/2006, Register 178; am 9/3/2006, Register 179; am 9/27/2008, Register 187; am 4/6/2016, Register 218; am 2/16/2018, Register 225; am \_\_/\_\_/\_\_\_\_, Register \_\_\_\_)

**Authority:** AS 14.03.015                      AS 14.07.030                      AS 14.07.060

AS 14.07.020

## Alaska PEAKS

# Recommended Cut Scores for Grade 9 Mathematics

Ricardo Mercado, Jessalyn Smith, & Sara Kendall

Data Recognition Corporation

May 25, 2018

On May 22–23, 2018, a committee of 14 Alaska educators participated in the Alaska PEAKS standard setting for grade 9 mathematics. The goal of the workshop was to recommend cut scores (passing scores) for the test. These cut scores are intended to divide students into four achievement levels: *Far Below Proficient*, *Below Proficient*, *Proficient*, and *Advanced*.

Cut scores for grades 3–10 mathematics were established in 2017. In school year 2017–18, the grade 9 mathematics test was revised to emphasize Algebra I concepts, and the grade 10 mathematics test was retired. Accordingly, a new standard setting was needed for grade 9 mathematics. To promote consistency with the other tests of mathematics, the same standard setting methodology was used in 2018 to recommend cut scores for grade 9.

Table 1 shows the recommended cut scores and associated impact data from the workshop. Impact data are the percentages of students who would be classified in each achievement level on the spring 2018 administration of the Alaska PEAKS if the cut scores were implemented. Figures 1 and 2, on page 2 of this document, show the *articulation* of the impact data associated with the other grades, from online examinees' performance in 2018 (Figure 1) and all examinees' performance in 2017 (Figure 2). A description of the standard setting follows Figure 2.

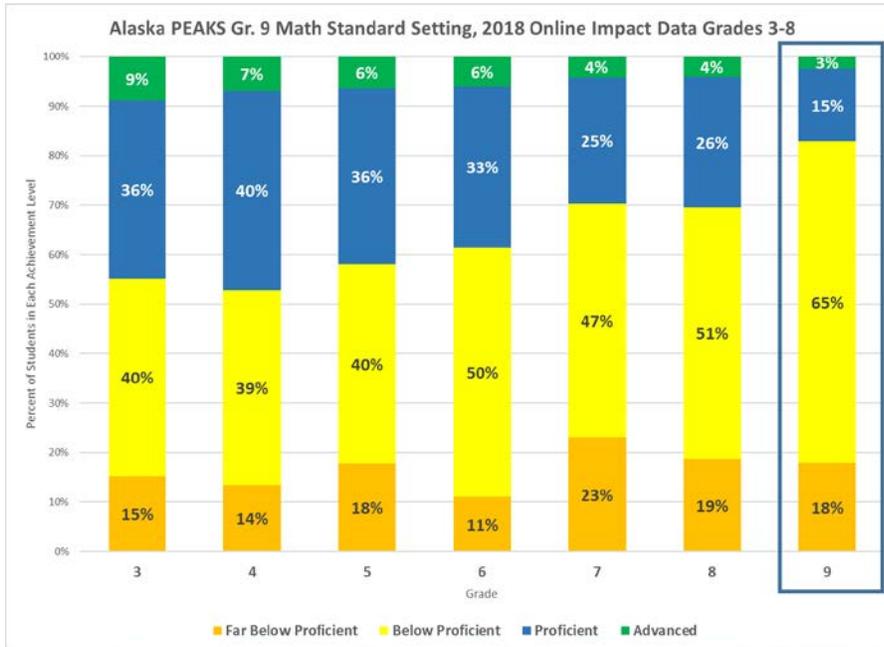
**Table 1. Participant-Recommended Cut Scores and Associated Impact Data for the 2018 Alaska PEAKS**

Content	Grade	Cut Scores as Number Correct			Cut Scores on Temporary Test Scale			Impact Data from Spring 2018				
		FBP/ BP	BP/ P	P/ A	FBP/ BP	BP/ P	P/ A	FBP	BP	P	A	P and Above
Math- ematics	9	17	35	50	423	591	757	18.0%	65.1%	14.5%	2.4%	16.9%

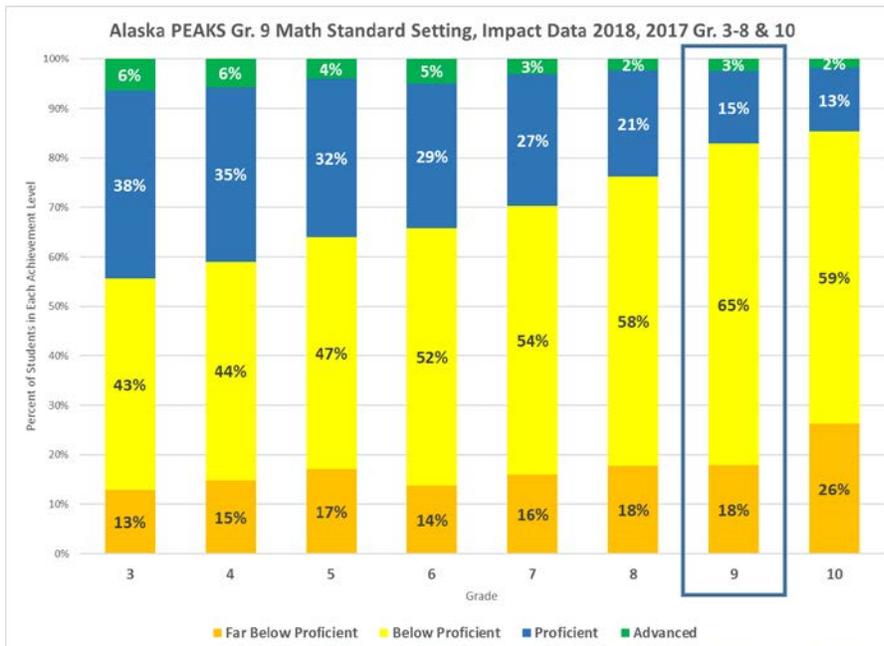
The standard setting was sponsored by the Alaska Department of Education and Early Development (DEED) and facilitated by Data Recognition Corporation (DRC). At the workshop, participants used the Yes/No Angoff procedure to make their cut score recommendations. This procedure, like the modified Angoff procedure on which it is based, has been used to establish achievement standards for educational assessments around the world.

The standard setting committee comprised mathematics teachers from across Alaska. Of the participants, 7 were classroom teachers, 3 were non-teacher educators, 1 represented higher education, and 3 were in other positions in education.

**Figure 1. Percentage of students in each achievement level based on participants' recommended cut scores for grade 9 (in box), compared with online examinees' performance in 2018 for grades 3–8**



**Figure 2. Percentage of students in each achievement level based on participants' recommended cut scores for grade 9 (in box), compared with observed performance in 2017 for grades 3–8 and 10**



Participants engaged in three rounds of discussions and judgments to make their cut score recommendations. Specifically, participants went through these steps to recommend cut scores:

1. Participants studied the content standards for the grade 9 mathematics assessment. The participants were instructed to pay special attention to the new emphasis of the test on Algebra I concepts.
2. Participants studied the achievement level descriptors (ALDs). The ALDs described, in words, the expectations for students in each achievement level on the test. Participants discussed these expectations in detail with their colleagues in their group.
3. Participants discussed the expectations for students on the *borderline* of each achievement level (e.g., a student on the borderline between the *Proficient* and *Advanced* achievement levels). There were three borderline students, each representing a hypothetical student with the level of knowledge, skills, and abilities associated with a cut score. The group discussed the content-based expectations for each borderline student.
4. Participants examined each grade 9 test item. To do so, participants examined the test items in a special *ordered item booklet* that presented the items in order of their difficulty. Items were ordered based on actual Alaska student performance in 2018.
5. For each test item, participants considered whether each borderline student would answer the item correctly (e.g., whether a student who was just *Proficient* would be expected to answer an item correctly). Participants recorded this determination, *yes* or *no*, on a special form.
6. Participants discussed their *yes/no* determinations for each item at their table. Participants were seated at tables of 3–4 participants each. Then participants individually reconsidered their *yes/no* determinations.
7. Participants considered additional information, including the proportions of students classified in each achievement level in 2017 for grades 3–8 and 10, the impact data associated with their median cut score recommendations on grade 9 mathematics for the 2018 administration, and the performance of online examinees on the tests of grades 3–8 mathematics in 2018. Then participants discussed their *yes/no* determinations across tables, and then individually reconsidered their *yes/no* determinations.
8. Participants engaged in a total of three rounds of discussion. After each round, participants worked individually to make *yes/no* determinations for each item.
9. After each round, a participant’s cut score recommendation was taken as the number of items they expected a student just entering a given achievement level to answer correctly (e.g., the number of items the participant determined that the just *Advanced* student would answer correctly). Each group’s cut score recommendation was taken as the median of participants’ recommendations for that round.

### **Option for Policy-Based Adjustment of *Proficient* Cut Score for Grade 9 Mathematics**

After the second and third rounds of discussion, participants examined the cut scores and associated impact data for grade 9 mathematics. Participants noted that fewer students were classified as *Proficient* and above in grade 9 than in grades 3–8; for content-based reasons, and based on their experience with grade 9 students and the content standards, participants agreed this pattern was reasonable. Notably, all participants said they were confident (8 out of 14) or very confident (6 out of 14) in this cut score recommendation on the final workshop evaluation.

In the final round of cut score recommendations, participants’ recommendations varied somewhat. Of the 14 recommendations, the interquartile range (IQR) was 32.5–37.25: approximately half of participants recommended cut scores in this range, with the other half of participants recommending cut scores above or below this range. Cut scores within this range are generally considered to be consistent with the voice of the committee.

The DEED may wish to implement a policy-based adjustment to the *Proficient* cut score for grade 9 mathematics to bring the percentage of students classified as *Proficient* more in line with the comparable percentage in grades 7 and 8. Such an adjustment may be prudent if the DEED considers the percentage of students classified in *Proficient* for grade 9 mathematics as unreasonably low when compared to grade 8.

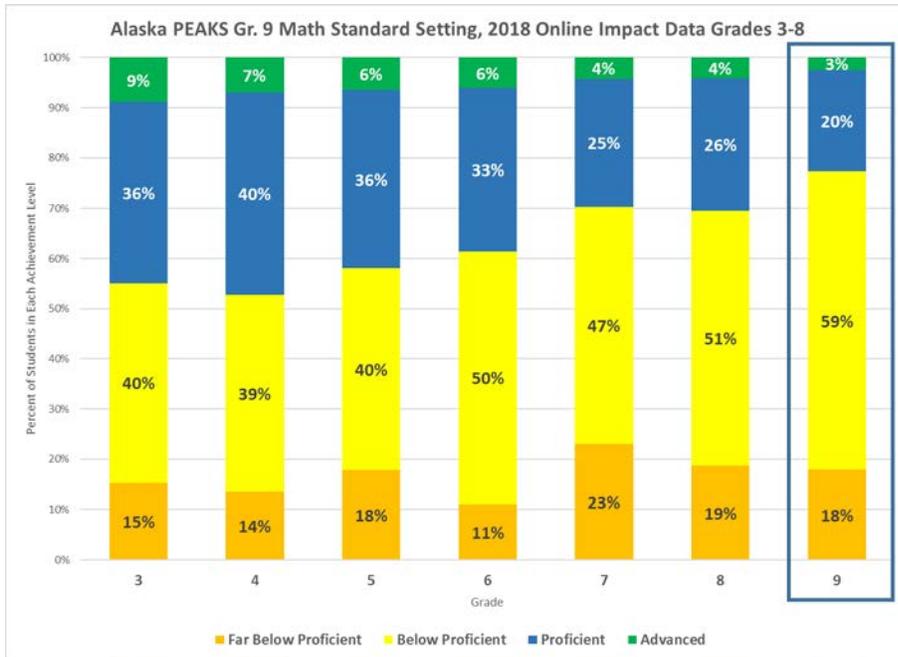
A potential adjustment, as shown in Table 2, would be to decrease the *Proficient* cut score to a raw score of 32, which is equivalent to temporary scale score of 564. This cut score is associated with the lower end of the interquartile range of round 3 recommendations. This decrease of 27 scale score points (on the temporary scale metric) represents a change of approximately 0.8 standard error of measurement (SEM) units, and is well within the range of cut scores recommended by workshop participants.

If the DEED chooses to implement this adjustment, approximately 20.2% of students would be classified as *Proficient* in grade 9 mathematics (instead of 14.6%). The cut scores and associated impact data, with this adjustment made, are reflected in Table 2. Figures 3 and 4, on page 5 of this document, show the articulation of the impact data associated with the other grades, from online examinees’ performance in 2018 (Figure 3) and all examinees’ performance in 2017 (Figure 4).

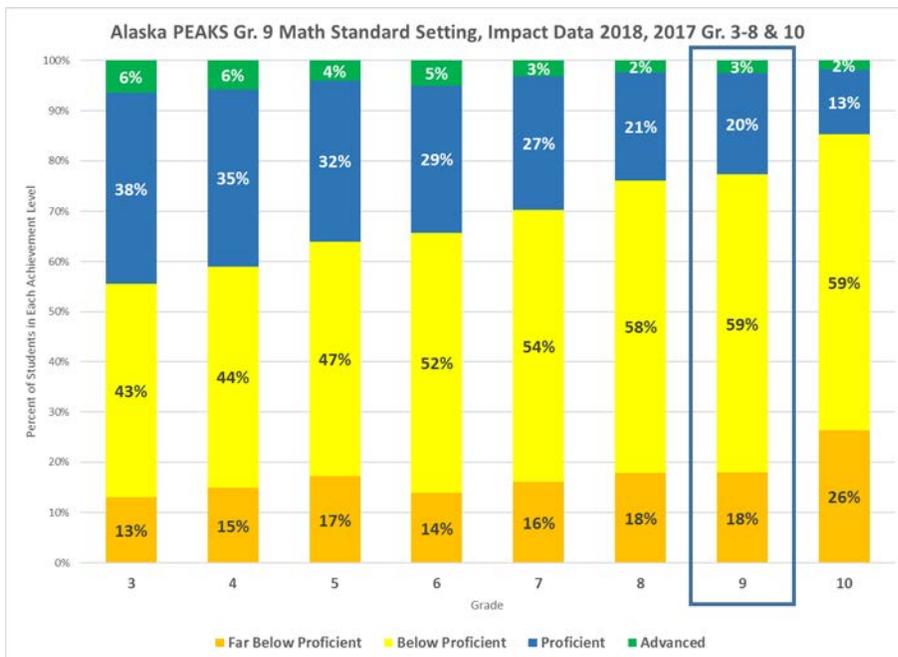
**Table 2. Cut Scores and Associated Impact Data for Alaska PEAKS Grade 9 Mathematics, Incorporating a Policy-Based Adjustment to the *Proficient* Cut Score**

Content	Grade	Cut Scores as Number Correct			Cut Scores on Test Scale			Impact Data from Spring 2018				
		<i>FBP / BP</i>	<i>BP / P</i>	<i>P / A</i>	<i>FBP / BP</i>	<i>BP / P</i>	<i>P / A</i>	<i>FBP</i>	<i>BP</i>	<i>P</i>	<i>A</i>	<i>P and Above</i>
<b>Math- ematics</b>	<b>9</b>	17	32	50	423	564	757	18.0%	59.4%	20.2%	2.4%	22.6%

**Figure 3. Percentage of students in each achievement level based on recommended cut scores with policy adjustment to the *Proficient* cut score for grade 9 (in box), compared with online examinees' performance in 2018 for grades 3–8**



**Figure 4. Percentage of students in each achievement level based on recommended cut scores with policy adjustment to the *Proficient* cut score for grade 9 (in box), compared with observed performance in 2017 for grades 3–8 and 10**



**To: Members of the State Board of  
Education & Early Development**

**July 25, 2018**

**From: Michael Johnson, Commissioner**

**Agenda Item: 3A**

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◆ **ISSUE**

The board is being asked to adopt regulations related to assessment achievement level scores on the Performance Evaluation for Alaska's Schools assessments in grade 9 math.

◆ **BACKGROUND**

- The board adopted changes to regulation 4 AAC 06.737 on July 14, 2017 to require districts to administer the Performance Evaluation for Alaska's Schools (PEAKS) English language arts (ELA) and mathematics assessments annually to every student in grades three through eight and in one or more years, as determined by the commissioner, in grades nine through twelve. The commissioner determined that Alaska would administer the ELA and Mathematics assessments in grade 9 only beginning in 2018.
- The score ranges for the four achievement levels (far below proficient, below proficient, proficient, and advanced) are adopted in regulations. The grade 9 ELA assessment for 2018 did not change, and the score ranges will remain the same. The score ranges for grade 10 ELA and mathematics are proposed to be removed from the regulations.
- Score ranges for grades 3–10 mathematics were established in 2017 through a process called “standard setting.” The methodology was reviewed and approved by the Alaska Technical Advisory Committee in 2017. In school year 2017–18, the grade 9 mathematics test was revised to emphasize Algebra I concepts, and the grade 10 mathematics test was retired. Accordingly, a new standard setting was needed for grade 9 mathematics. To promote consistency with the other tests of mathematics, the same standard setting methodology was used in 2018 to recommend cut scores for grade 9.
- On May 22–23, 2018, a committee of 14 Alaska educators participated in the Alaska PEAKS standard setting for grade 9 mathematics. The goal of the workshop was to recommend cut scores which would determine the score ranges for the four achievement levels for the test. The process is described in the attached document.
- An internal team of department staff reviewed the recommendations from the panels of educators with Commissioner Johnson. After consideration, the department team made minor technical adjustments to the recommended cut scores that fell within 1 standard error of measurement from the panelists' recommended scores. It was important to the department team to honor the work and professional judgment of the Alaskan educators. It was also important to reflect the reality of the performance of Alaska's students on the new standards.
- Behind this cover memo are the proposed regulations.

- A public notice was published on the State of Alaska website on-line public notice as well as published in the Anchorage Daily News on June 12, 2018.
- No public comments were received by the time the board packet was put together or by July 16, 2018, which was the close of the public comment period.
- Deborah Riddle, Student Learning Division Operations Manager, will be present to brief the board.

**◆ OPTIONS**

Adopt the proposed regulations.

Amend the proposed regulations and adopt the amended regulations.

Seek more information.

**◆ ADMINISTRATION'S RECOMMENDATION**

Adopt the proposed regulations.

**◆ SUGGESTED MOTION**

After considering all public comment, I move the State Board of Education & Early Development adopt the proposed amendments to 4 AAC 06.739 Assessment achievement level scores.

4 AAC 06.739 (b) is amended to read:

(b) Achievement levels for English language arts and mathematics are advanced, proficient, below proficient, or far below proficient. Students obtaining achievement levels of proficient or advanced meet standards. To obtain an achievement level of advanced, proficient, below proficient, or far below proficient in English language arts and mathematics, a student must obtain a score as set out in the following table:

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Mathematics: Advanced	554 - 600	559 - 600	568 - 600	554 - 600	559 - 600	562 - 600	<b>562-600</b> [570-600]	[568-600]
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Mathematics: Far Below Proficient	400 - 457	400 - 459	400 - 461	400 - 453	400 - 450	400 - 447	<b>400-450</b> [400-449]	[400-444]
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**Authority:** AS 14.03.015                      AS 14.07.030                      AS 14.07.060

AS 14.07.020