

Be Wary of Algebra in Grade 8

Standards Needed for Skipping Math 8

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I thank the Maryland State Dept. of Education's for its detailed presentation and summary of PARCC results at your August meeting.

I will connect two dots from that report (Actually two dots after some Arithmetic).

* 9,000 Grade 8 students scored less than proficient on the 2017 PARCC Algebra I exam. But, students studying Algebra in Grade 8 supposed to be exceptionally good ones.

* 8,000 students, who scored less than proficient on the 2016 PARCC Math 7 exam took Algebra I in 2016-2017, (most likely).

Connection of these two dots (likely). The bulk of students, who scored less than proficient on the Math 7 exam, but still went straight into Algebra I in Grade 8, went on to score less than proficient on the Algebra I exam.

Questions: * Why are students who score less than proficient on the PARCC Math 7 exam permitted to skip Math 8? * Why are students who score less than proficient on the PARCC Math 7 exam permitted to take Algebra I in Grade 8?

This is a **National problem.**

Arithmetic Problem. (NAEP) "There were 90 employees in a company last year. This year the number of employees increased by 10 percent. How many employees are in the company this year?"

Questions. What fraction of Grade 8 Algebra students can solve this Arithmetic Problem? What fraction can do it mentally?

Nationally, less than half of eighth-graders in Algebra I answered correctly, (even when it was given as a multiple choice NAEP problem!)¹.

This half of the eighth-graders in Algebra class have been guided into a trap; likely they will have great difficulty with Math in high school, also in a rigorous high school physics course.

STEM My professional common sense:

* Students who exceed the expectations on the PARCC Algebra I exam may be on track to be successful STEM majors in college.

* Students who merely meet the expectations on the PARCC Algebra I exam are on track to be at-risk STEM majors in college.

Goal for STEM. Many more students will exceed the expectations on the PARCC Algebra I exam.

Suggestion. Students who merely meet the expectations on the PARCC Math 7 exam, (but do not exceed them) will not be permitted to skip Math 8.

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¹ Multiple Choice: A) 9 B) 81 C) 91 D) 99 E) 100
<http://www.brookings.edu/brown.aspx>

Answer is D.