



Frequently Asked Questions about the American Diploma Project (ADP) Algebra I and II Exams

Background

How were the ADP Algebra I and Algebra II End-of-Course exams created and what makes them different from other assessments currently being given by states?

The exams were developed by members of the ADP assessment consortium, a group of fifteen states that banded together with the goal of creating high quality, rigorous assessments (Arkansas, Florida, Indiana, Kentucky, Maryland, Massachusetts, New Jersey, Ohio, Pennsylvania, Rhode Island, Arizona, Hawaii, Minnesota, North Carolina, and Washington). This is the largest multistate common assessment effort ever undertaken. Pearson serves as the test developer.

How long have the exams been around? The exams are relatively new—the first ADP Algebra II assessment was administered in the spring of 2008 and the first ADP Algebra I exam was administered in the spring of 2009. Standard setting for both exams was completed in July of 2009.

Why a multistate exam? State leaders worked together to develop rigorous end-of-course exams because they wanted to: develop high quality, rigorous exams that measures whether students have mastered content in Algebra I and II courses and whether they are ready for higher level mathematics; ensure a consistent level of content and rigor in Algebra I and II courses within and across their respective states; and develop high quality exams, at a lower cost to each state. Over time, states hope to be able to compare their performance and progress within and across states

What is the purpose of the ADP Algebra I and Algebra II exams? The Algebra I exam is designed to serve two purposes: to determine whether a student has mastered introductory algebra content and is prepared for higher-level mathematics coursework. The content on the Algebra I exam provides a strong foundation for Algebra II and the ADP Algebra II exam. The Algebra II exam is also designed to serve two purposes: to determine whether a student has mastered advanced Algebra content and to provide an indicator of how well prepared a student is for college-level mathematics coursework. In this respect, the Algebra II exam is unique and is one of only a handful of exams developed with the purpose of signaling to students their readiness for college mathematics while they are still in high school.

Arkansas has a well-established Algebra I exam that is recognized for its rigor, but no Algebra II common assessment. Therefore, the state elected to participate in the Algebra II consortium as a means for determining the level of academic achievement in Algebra II by Arkansas students in a more cost-efficient manner than developing its own instrument. Arkansas curriculum specialists played a large role in determining content for the Algebra II test and will use the results to drive both professional and curriculum development to increase achievement levels in this subject area.

For more information about the ADP Algebra I and II exams, including their development and released sample items, go to: www.achieve.org/ADPAssessmentConsortium



Why is Algebra II important for college readiness? Questions are sometimes raised about why Algebra II (or an integrated course covering the same content) is important for all high school graduates. Here are some important facts to keep in mind:

- Algebra II fosters problem solving, abstract reasoning and critical thinking skills that are used long after the course ends.
- Algebra II and other higher level math classes improve access to postsecondary education. Algebra II includes the advanced content that faculty at two- and four-year institutions say is critical for success in mathematics college coursework.
- Students who study mathematics at least through Algebra II in high school are more than twice as likely as those who do not to earn a four-year degree. The level of mathematics a student reaches in high school is the most accurate predictor of whether that student will earn a Bachelor's degree. In contrast, students who have not mastered Algebra II in high school are more likely to need remediation and, therefore, less likely to complete their postsecondary goals.

When are the exams administered and how many students participated in the 2009 spring administration? The exams are administered each fall and spring in participating states. In spring 2009, over 30,000 students in four states—Kentucky, New Jersey, Ohio, and Rhode Island—took the Algebra I exam and over 100,000 in 13 states—Arkansas, Indiana, Kentucky, Maryland, Massachusetts, New Jersey, Ohio, Pennsylvania, Rhode Island, Arizona, Hawaii, Minnesota, and North Carolina—took the Algebra II exam.

Spring 2009 Exam Results

What are the performance levels on the exams? Students taking the Algebra I exam were told on student reports whether they scored at the “below basic,” “basic,” “proficient,” or “advanced” level, an indication of a student’s readiness for higher-level mathematics. The content on the Algebra I exam provides a strong foundation for Algebra II and the ADP Algebra II exam. Students taking the Algebra II exam were told on student reports whether they scored at the “well prepared,” “prepared,” or “needs preparation” level. In this respect, the Algebra II exam is unique and is one of only a handful of exams developed with the purpose of both telling students whether they mastered the content in the course and providing an indication of their readiness for college mathematics while they are still in high school. This information should help high schools better prepare their students for college and ultimately reduce the need for expensive college remediation courses in mathematics. To that end, higher education mathematics professors from two- and four-year institutions, along with their counterparts from K-12, participated in every step of developing the Algebra II exam.

What were the overall exams results? Both the Algebra I and II exams are challenging exams meant to test students’ mastery of the content necessary for success in mathematics at the next level. As expected for the early administrations of such exams, the spring 2009 results were low for all of the participating states for both exams. As

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teachers become familiar with the exam standards and Algebra I and II instruction and curriculum is adjusted and improved, student learning will evolve and results will improve.

Is there a report that shows cross-state comparisons? In late September 2009, Achieve will publish its annual report on the consortium exam results. The report will be posted on the Achieve website at www.achieve.org/ADPAssessmentConsortium.

How are states using the exam results? All participating states intend to use the exams to improve curriculum and instruction in Algebra I and II, within and across states, and to ensure a consistent level of content and rigor in the courses. As teachers and schools become familiar with the exam's expectations, they will be able to adjust their instruction and support to students accordingly. The exams will help teachers focus on the most important concepts and skills in the courses and identify areas where the curriculum needs to be strengthened so that all students have access to the same rigorous content. The Arkansas Department of Education has already engaged with mathematics faculty at state universities and colleges to provide intensive professional development to high school Algebra II teachers.

What should students and their parents do if they were not satisfied with their exam results? Performance on the exams is just one indicator of a student's readiness for their next mathematics course. Other important indicators include feedback received during the course and a student's overall performance in the course they have just completed. With respect to both Algebra I and Algebra II (or integrated courses covering the same content), many students will complete these courses before they finish high school. This gives students time, while still in high school, to continue to take more rigorous mathematics and improve their mathematics skills. The most important thing that a student can do to be ready for college mathematics courses is to continue to take mathematics for all four years of high school.

Structure and Content and of Algebra I and II Exams and their Administration

What mathematics content is covered in the Algebra I and Algebra II exams?

The ADP Algebra I exam covers a range of algebraic topics that are typically taught in an Algebra I course. These include: 1) Operations on Numbers and Expressions 2) Linear Relationships 3) Non-linear Relationships and 4) Data, Statistics and Probability. The Algebra I exam was created to provide a solid foundation for higher-level mathematics courses, including a rigorous Algebra II course. The ADP Algebra II exam covers a range of algebraic topics that are typically taught in an Algebra II course. These include: 1) Operations on Numbers and Expressions 2) Equations and Inequalities 3) Polynomial and Rational Functions 4) Exponential functions and 5) Function Operations and Inverses. More detail on the content of both exams can be found at: www.achieve.org/ADPAssessmentConsortium.

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How many questions are there on each exam and how are the exams structured?

On the Algebra I exam, there are 47 operational items organized into two testing sessions, one non-calculator session and one calculator session. The breakdown is: 40 multiple-choice (1 point each), 5 short answer (2 points each), and 2 extended response (4 points each). At least 30% of the student's score will be based on the short-answer and extended-response items. On the Algebra II exam, there are 55 operational items organized into two testing sessions, one non-calculator session and one calculator session. The breakdown is: 46 multiple-choice (1 point each), 6 short answer (2 points each), and 3 extended response (4 points each). At least 30% of the student's score will be based on the short-answer and extended-response items.

How long are the exams? Both tests are considered untimed and students are given enough time to finish the exams. For Algebra I, it is recommended that approximately 45-60 minutes be allotted for each test session. The first session contains multiple choice, short-answer and extended-response items and is taken without a calculator. The second session contains multiple choice, short-answer and extended-response items, and a calculator is permitted. For Algebra II, it is recommended that approximately 90 minutes be allotted for each test session. The first session contains multiple choice, short-answer and extended-response items and is taken without a calculator. The second session contains multiple choice, short-answer and extended-response items, and a calculator is permitted.

What is the calculator policy for the exams? The Algebra I and II end-of-course exams permit calculators for the second session which contains multiple choice, short-answer and extended-response items. A graphing calculator is suggested, but not required. In fact, it is recommended that students use the calculator that they are most familiar with. There are no items which advantage or disadvantage a student with a particular type of calculator, assuming the student knows the mathematics content involved and how to approach it using their calculator. In addition, all items can be answered without a calculator. In fact, it is important that students learn to assess for themselves whether or not a calculator would be helpful when approaching exam items.

Is it possible to see released test questions? Yes, released items can be found at: www.achieve.org/ADPAssessmentConsortium under the appropriate subject area section, Algebra I or Algebra II

What testing formats are available for the exams? In spring 2009, the Algebra I test was administered in paper-and-pencil format only, however, the Algebra II exam was administered in both paper-and-pencil and online formats. For future administrations, both formats will be available for both exams.



The American Diploma Project Network

What is the American Diploma Project network? The American Diploma Project (ADP) network is a coalition of 35 states that are dedicated to making sure every high school graduate is prepared for college, career and life. Together, network members are responsible for educating nearly 85% of all U.S. public school students. The network is managed by Achieve, a non-profit group founded by governors and business leaders committed to ensuring that all high school students graduate ready for college, career and life.

How do states join the ADP network? Governors and state education leaders join the network and organize a state leadership team consisting of representatives from the K-12, higher education and the business community. These state teams commit to making the high school diploma count by raising the rigor of the high school standards, graduation requirements, assessments and accountability systems and aligning these expectations with the demands of postsecondary education and career.