Redesigned:
SAT, PSAT 8/9, PSAT 10, PSAT/NMSQT

MCTM Annual Conference – July 2015
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Coordinator of Research, Evaluation, and Assessment, Monroe County ISD
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Mathematics and Science Centers Network

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Michigan Mathematics Consultants and Coordinators

maisa

CollegeBoard

MCTM
Special Thanks to

Jim Licht
St. Clair Technical Education Center
Curriculum Consultant

Gerri Devine
Mathematics Curriculum & Instruction Consultant
Oakland Schools
Our learning targets:

- I CAN describe the format and content composition of the mathematics portion of the Redesigned SAT (rSAT) suite of assessments.
- I CAN apply best-practices in teaching and learning mathematics to teaching the genre of rSAT/rPSAT mathematics questions.
- I CAN recognize and apply the eight Standards for Mathematical Practice in the rSAT/rPSAT questions.
- I CAN locate resources for teachers and students around the mathematics portion of the rSAT/rPSAT.
- I CAN begin to plan strategies for addressing rSAT/rPSAT performance in my own mathematics classes/courses.
The SAT Suite of Assessments

- PSAT 8/9: Readiness Baseline
- PSAT/NMSQT: Check-in and Focus
- SAT: Connect to College
8 Key Changes to the SAT

1. Relevant words in context
2. Command of evidence
3. Essay analyzing a source
4. Math focused on three key areas
5. Problems grounded in real-world contexts
6. Analysis in science and social studies
7. Founding documents and great global conversation
8. No penalty for wrong answers
Scores and Score Ranges Across the SAT Suite of Assessments

+ Section Scores will be placed on a vertical scale.

+ This same concept will hold true for the Test and Cross-Test Scores as well as Total Score.
The Redesigned SAT/PSAT Suite:
The Math that Matters Most
If it was up to you….

Of all of the major topics/standards from high school mathematics that are included in the Michigan Academic Standards…

Which 4 would you say are non-negotiable to supporting the success of the vast majority of students in their post-secondary education (college, technical training, OJT, etc.)?
The College Board’s Research Says:

- Heart of Algebra
- Problem Solving and Data Analysis
- Passport to Advanced Math
- Additional Topics in Math
Score Reporting on the Redesigned SAT

What happened to “Additional Topics in Mathematics”??

*All Cross-Test Scores and Subscores are subject to research.*
Standards of Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.
Assessing the Standards of Mathematical Practice

“The test covers all mathematical practices, with an emphasis on problem solving [1], modeling [4], using appropriate tools strategically [5], and looking for and making use of structure [7] to do algebra. The practices emphasized in the Redesigned SAT are central to the demands of postsecondary work. Problem solving requires students to make sense of problems and persevere to solve them, a skill highly rated by postsecondary instructors (Conley et al., Reaching the Goal, 2011). Modeling stresses applications characteristic of the entire postsecondary curriculum. Students will be asked throughout high school, college, and careers to make choices about which tools to use in solving problems. Finally, structure is fundamental to algebra and to other more advanced mathematics.”

- Redesigned SAT Test Specifications Document, p. 133
## Grade Level Appropriate Math

<table>
<thead>
<tr>
<th>PSAT 8/9</th>
<th>PSAT 10</th>
<th>SAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Many items requiring one or two steps to solve</td>
<td>Many items requiring 2 or more steps to solve</td>
<td>Emphasis on multi-step problems</td>
</tr>
<tr>
<td>May require the use of common geometric equations</td>
<td>May require the use of common geometric equations and spatial reasoning</td>
<td>Requires the use of geometry concepts and reasoning</td>
</tr>
<tr>
<td>Includes ratios, proportions, percents, introductory probability and statistics</td>
<td>Requires comparing linear and exponential growth</td>
<td>Includes statistics topics such as sampling and inferring correlation and causation form a research method</td>
</tr>
<tr>
<td>May require the use of properties of right triangles to solve problems</td>
<td>Requires the use of trigonometric relationships</td>
<td>Requires the use of trigonometry</td>
</tr>
</tbody>
</table>
SAT Math Test Specifications

► The overall aim of the SAT Math Test is to assess fluency with, understanding of, and ability to apply the mathematical concepts that are most strongly prerequisite for and useful across a wide range of college majors and careers.

► The Math Test has two portions:
  - Calculator Portion (38 questions) 55 minutes
  - No-Calculator Portion (20 questions) 25 minutes

► Total Questions on the Math Test: 58 questions
  - Multiple Choice (45 questions)
  - Student-Produced Response (13 questions)
Calculator and No-Calculator Portions

► The Calculator portion:
  - gives insight into students’ capacity to use appropriate tools strategically.
  - includes more complex modeling and reasoning questions to allow students to make computations more efficiently.
  - includes questions in which the calculator could be a deterrent to expedience.
    • students who make use of structure or their ability to reason will reach the solution more rapidly than students who get bogged down using a calculator.

► The No-Calculator portion:
  - allows the redesigned SAT to assess fluencies valued by postsecondary instructors and includes conceptual questions for which a calculator will not be helpful.

► Which calculators are acceptable to use? You might be surprised! (KB)
  - [https://sat.collegeboard.org/register/calculator-policy](https://sat.collegeboard.org/register/calculator-policy)
Student-Produced Response Questions

Student-produced response questions, or grid-ins:

► The answer to each student-produced response question is a number (fraction, decimal, or positive integer) that will be entered on the answer sheet into a grid such as the one shown below.

► Students may also enter a fraction line or a decimal point.

Sample Question 1 for Student-Produced Responses

\[-3x + 4y = 20\]
\[6x + 3y = 15\]

If \((x, y)\) is the solution to the system of equations above, what is the value of \(x\)?
Sample Question 2 for Student-Produced Responses

Jim has a triangular shelf system that attaches to his showerhead. The total height of the system is 18 inches, and there are three parallel shelves as shown above. What is the maximum height, in inches, of a shampoo bottle that can stand upright on the middle shelf?
# SAT Math Test Specifications

## SAT Math Test Question Types

<table>
<thead>
<tr>
<th>Type</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Questions</td>
<td>58</td>
</tr>
<tr>
<td>Multiple Choice (four answer choices)</td>
<td>45</td>
</tr>
<tr>
<td>Student-Produced Responses (SPR or grid-ins)</td>
<td>13</td>
</tr>
</tbody>
</table>

## Contribution of Questions to Subscores

<table>
<thead>
<tr>
<th>Area</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart of Algebra</td>
<td>19</td>
</tr>
<tr>
<td>Problem Solving and Data Analysis</td>
<td>17</td>
</tr>
<tr>
<td>Passport to Advanced Math</td>
<td>16</td>
</tr>
<tr>
<td>Additional Topics in Math*</td>
<td>6</td>
</tr>
</tbody>
</table>

## Contribution of Questions to Cross-Test Scores

<table>
<thead>
<tr>
<th>Area</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analysis in Science</td>
<td>8</td>
</tr>
<tr>
<td>Analysis in History/Social Studies</td>
<td>8</td>
</tr>
</tbody>
</table>

*Questions under Additional Topics in Math contribute to the total Math Test score but do not contribute to a Subscore within the Math Test.
How Does The Math Test Relate to Instruction in Science, Social Studies, and Career-Related Courses?

► Math questions contribute to **Cross-Test Scores**, which will include a score for Analysis in Science and Analysis in History/Social Studies. The Math Test will have eight questions that contribute to each of these Cross-Test Scores.
  - Question content, tables, graphs, and data on the Math Test will relate to topics in science, social studies, and career.

► On the Reading Test and Writing and Language Test, students will be asked to analyze data, graphs, and tables (no mathematical computation required).
Reflection

A colleague asks you:

“What do I really need to know about the mathematics portion of the redesigned SAT?”

From what you know so far, what might you tell them?
Four focus content domains

- Heart of Algebra
- Problem Solving and Data Analysis
- Passport to Advanced Math
- Additional Topics in Math
Divide and Conquer

- Meet with expert group
  - What would you say is the primary content or theme of your domain?
  - What might you be surprised not to see in your domain? How else/where else might we expect to see that content assessed?
  - Which Standards of Mathematical Practice might you expect to be readily interwoven into this domain? Which others may need some mindful and strategic inclusion?
  - What challenges might you anticipate in supporting students in attaining proficiency in this domain?
  - What might be some best-practices for teaching, learning, and assessment for this domain?
- At the signal, return to your home group and share out in turn about each domain.
What is ‘Heart of Algebra?’

- Algebra is the language of high school mathematics; students must be proficient in order to do most of the other math learned in high school
  - The ability to use linear equations to model scenarios and to represent unknown quantities is powerful across the curriculum in the classroom as well as in the workplace

- Algebra is a prerequisite for advanced mathematics

Heart of Algebra: Assessed Skills

- Analyzing and fluently solving equations and systems of equations
- Creating expressions, equations, and inequalities to represent relationships between quantities and to solve problems
- Rearranging and interpreting formulas
Heart of Algebra (Calculator)

When a scientist dives in salt water to a depth of 9 feet below the surface, the pressure due to the atmosphere and surrounding water is 18.7 pounds per square inch. As the scientist descends, the pressure increases linearly. At a depth of 14 feet, the pressure is 20.9 pounds per square inch. If the pressure increases at a constant rate as the scientist’s depth below the surface increases, which of the following linear models best describes the pressure \( p \) in pounds per square inch at a depth of \( d \) feet below the surface?

A)  \( p = 0.44d + 0.77 \)
B)  \( p = 0.44d + 14.74 \)
C)  \( p = 2.2d - 1.1 \)
D)  \( p = 2.2d - 9.9 \)
Digging Deeper

► What strategy and tools did you use to approach this problem?

► Why might you have selected these?

► What other strategies and tools might other participants (or students) use?

► What advantages or disadvantages might there be for each of the strategies and tools?

► Which Standards of Mathematical Practice might be applicable to this problem, and why?
Heart of Algebra: Answer Explanation

Choice B is correct. To determine the linear model:

► determine the rate at which the pressure due to the atmosphere and surrounding water is increasing as the depth of the diver increases

\[
\frac{\text{change in pressure in pounds per square inch}}{\text{change in feet}} = \frac{20.9 - 18.7 \text{ lbs/in}^2}{14 - 9 \text{ ft}} = \frac{2.2 \text{ lbs/in}^2}{5 \text{ ft}} = 0.44 \frac{\text{lbs/in}^2}{\text{ft}}
\]

► determine the pressure due to the atmosphere (the pressure when the diver is at a depth of 0)

\[
18.7 = 14.74 \text{ lbs/in}^2 = 0.44 \frac{\text{lbs/in}^2}{\text{ft}} (9 \text{ ft}) + b;
\]

\[
b = 14.74 \text{ lbs/in}^2
\]

Therefore, the model that can be used to relate the pressure and the depth is \( p = 0.44 \, d + 14.74 \).
Heart of Algebra
Sample Question (No Calculator)

1. If line $l$ is translated up 5 units and right 7 units, then what is the slope of the new line?

A) $\frac{-2}{5}$
B) $\frac{-3}{2}$
C) $\frac{-8}{9}$
D) $\frac{-11}{14}$
Digging Deeper

► What strategy and tools did you use to approach this problem?

► Why might you have selected these?

► What other strategies and tools might other participants (or students) use?

► What advantages or disadvantages might there be for each of the strategies and tools?

► Which Standards of Mathematical Practice might be applicable to this problem, and why?
What Is ‘Problem Solving and Data Analysis?’

► Quantitative Reasoning

► Analysis of Data
  - Ratios
  - Percentages
  - Proportional reasoning

► In Problem Solving and Data Analysis, students will encounter an important feature of the redesigned SAT: **multipart questions**
  - Asking more than one question about a given scenario allows students to do more sustained thinking and explore situations in greater depth
  - Students will generally see longer problems in their postsecondary work
Problem Solving and Data Analysis: Assessed Skills

- Creating and analyzing relationships using ratios, proportions, percentages, and units
- Describing relationships shown graphically
- Summarizing qualitative and quantitative data
Problem Solving and Data Analysis: Sample Question (Calculator)

A typical image taken of the surface of Mars by a camera is 11.2 gigabits in size. A tracking station on Earth can receive data from the spacecraft at a data rate of 3 megabits per second for a maximum of 11 hours each day. If 1 gigabit equals 1,024 megabits, what is the maximum number of typical images that the tracking station could receive from the camera each day?

A) 3
B) 10
C) 56
D) 144
Choice B is correct. The tracking station can receive 118,800 megabits each day.

\[
\left( \frac{3 \text{ megabits}}{1 \text{ second}} \times \frac{60 \text{ seconds}}{1 \text{ minute}} \times \frac{60 \text{ minutes}}{1 \text{ hour}} \times 11 \text{ hours} \right), \text{ which is about } 116
\]

gigabits each day \( \frac{118,800}{1,024} \).

If each image is 11.2 gigabits, then the number of images that can be received each day is \( \frac{116}{11.2} \approx 10.4 \). Since the question asks for the maximum number of typical images, rounding the answer down to 10 is appropriate because the tracking station will not receive a complete 11th image in one day.
Digging Deeper

► What strategy and tools did you use to approach this problem?

► Why might you have selected these?

► What about this question may students find challenging?

► What instructional strategies may be helpful in increasing student success on problems like this?

► Which Standards of Mathematical Practice might be applicable to this problem, and why?
Problem Solving and Data Analysis  Sample Question (Calculator)

A survey was conducted among a randomly chosen sample of U.S. citizens about U.S. voter participation in the November 2012 presidential election. The table below displays a summary of the survey results.

Reported Voting by Age (in thousands)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>VOTED</th>
<th>DID NOT VOTE</th>
<th>NO RESPONSE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>18- to 34-year-olds</td>
<td>30,329</td>
<td>23,211</td>
<td>9,468</td>
<td>63,008</td>
</tr>
<tr>
<td>35- to 54-year-olds</td>
<td>47,085</td>
<td>17,721</td>
<td>9,476</td>
<td>74,282</td>
</tr>
<tr>
<td>55- to 74-year-olds</td>
<td>43,075</td>
<td>10,092</td>
<td>6,831</td>
<td>59,998</td>
</tr>
<tr>
<td>People 75 years old and over</td>
<td>12,459</td>
<td>3,508</td>
<td>1,827</td>
<td>17,794</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>132,948</td>
<td>54,532</td>
<td>27,602</td>
<td>215,082</td>
</tr>
</tbody>
</table>

Move to the next slide for the question prompt and answer choices:
Problem Solving and Data Analysis Sample Question (Calculator)

Of the 18- to 34-year-olds who reported voting, 500 people were selected at random to do a follow-up survey where they were asked which candidate they voted for. There were 287 people in this follow-up survey sample who said they voted for Candidate A, and the other 213 people voted for someone else. Using the data from both the follow-up survey and the initial survey, which of the following is most likely to be an accurate statement?

A) About 123 million people 18 to 34 years old would report voting for Candidate A in the November 2012 presidential election.

B) About 76 million people 18 to 34 years old would report voting for Candidate A in the November 2012 presidential election.

C) About 36 million people 18 to 34 years old would report voting for Candidate A in the November 2012 presidential election.

D) About 17 million people 18 to 34 years old would report voting for Candidate A in the November 2012 presidential election.
Digging Deeper

► What strategy and tools did you use to approach this problem?

► Why might you have selected these?

► What other strategies and tools might other participants (or students) use?

► What advantages or disadvantages might there be for each of the strategies and tools?

► Which Standards of Mathematical Practice might be applicable to this problem, and why?
What is ‘Passport to Advanced Math?’

Problems in Passport to Advanced Math will cover topics that have great relevance and utility for college and career work.

- Understand the structure of expressions
- Analyze, manipulate, and rewrite expressions
- Reasoning with more complex equations
- Interpret and build functions
Passport to Advanced Math: Assessed Skills

- Create and solve quadratic and exponential problems
- Create and solve radical and rational equations
- Solve systems of equations
- Understand the relationship between zeros and factors of polynomials
The function $f$ is defined by $f(x) = 2x^3 + 3x^2 + cx + 8$, where $c$ is a constant. In the $xy$-plane, the graph of $f$ intersects the $x$-axis at the three points $(-4, 0)$, $\left(\frac{1}{2}, 0\right)$, and $(p, 0)$. What is the value of $c$?

A) $-18$

B) $-2$

C) $2$

D) $10$
Passport to Advanced Math: Answer Explanation

Choice A is correct. The given zeros can be used to set up an equation to solve for c. Substituting –4 for x and 0 for y yields –4c = 72, or c = –18.

Alternatively, since –4, $\frac{1}{2}$, and p are zeros of the polynomial function

$$f(x) = 2x^3 + 3x^2 + cx + 8,$$

it follows that

$$f(x) = (2x - 1)(x + 4)(x - p).$$

Were this polynomial multiplied out, the constant term would be

$$(-\frac{1}{2})(4)(-p) = 4p.$$ (We can see this without performing the full expansion.)

Since it is given that this value is 8, it goes that 4p = 8 or rather, p = 2. Substituting 2 for p in the polynomial function yields

$$f(x) = (2x - 1)(x + 4)(x - 2),$$

and after multiplying the factors one finds that the coefficient of the x term, or the value of c, is –18.
What strategy and tools did you use to approach this problem?

Why might you have selected these?

What other strategies and tools might other participants (or students) use?

What advantages or disadvantages might there be for each of the strategies and tools?

Which Standards of Mathematical Practice might be applicable to this problem, and why?
What is ‘Additional Topics in Math?’

The SAT will require the geometric and trigonometric knowledge most relevant to postsecondary education and careers.

► **Geometry**
  - Analysis
  - Problem solving

► **Trigonometry**
  - Sine
  - Cosine
  - Tangent

► **Pythagorean Theorem**
Additional Topics in Math: Assessed Skills

► Solve problems using volume formulas
► Solve problems involving right triangles
► Apply theorems about circles
► Solve problems about lines, angles, and triangles
An architect drew the sketch below while designing a house roof. The dimensions shown are for the interior of the triangle.

What is the value of \( \cos x \)?

Note: Figure not drawn to scale.

NOTE: This question is a “Student-produced response question” which asks the students to write in the correct answer rather than selecting one of the given answers. About 20% of the Math Test will be Student-produced response questions.
Additional Topics in Math: Answer Explanation

What is the value of $\cos x$?

This problem requires students to make use of properties of triangles to solve a problem.

Because the triangle is isosceles, constructing a perpendicular from the top vertex to the opposite side will bisect the base and create two smaller right triangles. In a right triangle, the cosine of an acute angle is equal to the length of the side adjacent to the angle divided by the length of the hypotenuse. This gives $\cos x = \frac{16}{24}$, which can be simplified to $\cos x = \frac{2}{3}$. 
What strategy and tools did you use to approach this problem?

What might be particularly challenging for students about this problem?

What does a student need to be successful on a task like this?

What classroom experiences might equip students with these skills and practices?

Which Standards of Mathematical Practice might be applicable to this problem, and why?
Reflection

Consider the sample problems and the discussion around them.

What might you suggest as teaching, learning, and assessment practices that would support students to best demonstrate their understanding and skill on the rSAT/rPSAT?
Helping Students to Prepare for Success with the Revised SAT/PSAT
What is the best preparation for performing well on the rSAT/rPSAT?

From the College Board itself:

“The most important thing students can do to prepare for the SAT is to take the most challenging courses available to them, do their best work, and benefit from daily instruction that prepares them for college and career.

The single best way teachers can prepare students is to continue to develop and focus on the college and career readiness skills they are already teaching in their discipline.”

What does that mean for Mathematics Preparation?

High-quality teaching and learning of the Michigan career and college readiness mathematics standards, including the Standards of Mathematical Practice (SMP) through:

- Engaging in rich math tasks which develop and use conceptual understanding and the ability to apply mathematics understanding and skills
- Engaging in worthwhile opportunities to practice skills to attain fluency
- Engaging in frequent formative assessment with descriptive feedback used by students for improvement and for tracking their own growth
- Developing key life-long mathematical habits of mind as illustrated in the eight Standards of Mathematical Practice

Throughout their K-12 mathematics experience – not just during high school
Standardized Testing as a Genre

Characterized by:
- Familiar Style
- Familiar Form
- Familiar Content


Mastering the genre doesn’t help much if the content proficiency is weak.
Rich Math Tasks - Resources

► MAP – Mathematics Assessment Project
  ► http://map.mathshell.org/
    ► Check out the Lessons, Tasks, and Tests tabs
      ► FREE

► EMATHS – Embracing Mathematics, Assessment, & Technology in High Schools
  ► http://www.emathsami.com/resources.php
    ► Michigan project led by Macomb ISD
      ► Many FREE resources (units of study and tasks)
        ► Training (excellent!) may yet be offered
Rich Math Tasks - Resources

- MAISA Math Units
  - https://gomaisa-public.rubiconatlas.org/Atlas/Public/View/Default
  - FREE
  - Check with your ISD/RESA/RESD/AESA for upcoming training events
  - All units have a formative assessment task and at least one highlight lesson with rich tasks that promote mathematical discourse, multiple representations, and/or multiple solution strategies
Rich Math Tasks - Resources

- **Algebra for All (Algebra4All)**
  - [http://a4a.learnport.org/](http://a4a.learnport.org/)
    - Michigan statewide project - Check out Lesson Sharing and Resources - FREE
      - Some A4A documents are housed under the PRIME menu option
        - On-line professional learning courses are still available through Michigan Learnport

- **Project PRIME – Promoting Reform In Mathematics Education**
    - Michigan statewide project from the Michigan Mathematics and Science Centers Network (MMSCN) – View PRIME resources under the PRIME tab - FREE
      - Training may yet be offered around the state
Practice with Khan Academy

► The College Board and Khan Academy have partnered to provide online SAT® test preparation programs and resources entirely free of charge.

► On June 2, 2015, Khan Academy released an interactive and personalized practice program for the redesigned SAT.

► Features include:
  - Thousands of practice problems
  - Personalized tutorials on test content
  - Official SAT practice questions and full-length tests
  - Comprehensive reporting for students
  - Access anytime, anywhere — for free

► The College Board is working with educators, community groups, college access organizations, and parents to provide the necessary resources to propel students to college success.
Practice with Khan Academy

► Practice programs will be individually targeted to address each student’s greatest areas of need (based on diagnostic assessment on khanacademy.org.).

► Khan Academy provides online guides and suggestions to help teachers use Khan Academy supports in classroom instruction.

► [www.khanacademy.org/sat](http://www.khanacademy.org/sat) - Overview with David (College Board) and Sal (KA)

► [https://www.youtube.com/watch?v=QvLS9pP65sA](https://www.youtube.com/watch?v=QvLS9pP65sA) - Overview of SAT, PSAT practice and tutorials available through Khan Academy
Resources for Teachers

SAT Teacher Implementation Guide


Why you want a copy:
- Full details in teacher-friendly form on the 4 major math domains on the rSAT
- Additional examples
- Planning tools
- Tools to use with students

Test Specifications for the Redesigned SAT®


Why you want a copy:
- Even more detail about the rSAT
- More sample questions
More Resources for Teachers

College Board Website
https://collegereadiness.collegeboard.org/

Michigan & SAT Website
https://collegereadiness.collegeboard.org/state-partnerships/michigan?excmpid=MTG308-AL-1-mat

Sample redesigned test questions
https://collegereadiness.collegeboard.org/sample-questions

Sample redesigned PSAT Practice Test
https://collegereadiness.collegeboard.org/sites/default/files/psat_nmsqt_practice_test_1.pdf

Sample redesigned SAT Practice Tests
https://collegereadiness.collegeboard.org/sat/practice/full-length-practice-tests
What’s in the SAT Teacher Implementation Guide?

► Information and strategies for teachers in all subject areas
► Overview of SAT content and structure
► Test highlights
► General Instructional Strategies
► Sample test questions and annotations
  - Skill-Building Strategies for your classroom
  - Keys to the SAT (information pertaining to the redesigned SAT structure and format)
  - Rubrics and sample essays
► Scores and reporting
► Advice to share with students
As you read each strategy, which Standard(s) of Mathematical Practice might you say are involved in this strategy?
General Instructional Strategies for SAT Math Test

► Ensure that students practice solving multi-step problems.

► Organize students into small working groups. Ask them to discuss how to arrive at solutions.

► Assign students math problems or create classroom-based assessments that do not allow the use of a calculator.

► Encourage students to express quantitative relationships in meaningful words and sentences to support their arguments and conjectures.

► Instead of choosing a correct answer from a list of options, ask students to solve problems and enter their answers in grids provided on an answer sheet on your classroom and common assessments.
Skill-Building Strategies for Math

► Provide students with explanations and/or equations that incorrectly describe a graph and ask them to correct the errors.

► Ask students to create pictures, tables, graphs, lists, models, and/or verbal expressions to interpret text and/or data to help them arrive at a solution.

► Organize students in small groups and have them work together to solve problems.

► Use “Guess and Check” to explore different ways to solve a problem when other strategies for solving are not obvious.
Thinking Forward

► What can I do in my classes immediately to help students understand what they’ll see on the redesigned SAT?

► How can I adjust some of my *classwork and assignments* to reflect the structure of questions on the redesigned SAT?

► How can I adjust some of my *assessments* to reflect the structure of questions on the redesigned SAT?

► What additional resources do I need to gather in order to support students in becoming college and career ready?

► How can I help students keep track of their own progress toward meeting college and career ready benchmarks?
Feedback to the Math SAT Task Force

► What are your needs around your own knowledge and familiarity with the mathematics portions of the Revised SAT/PSAT tests?

► What would you suggest as next steps for the Math SAT Task Force (sharing information, training, resources, etc.)?

► What questions might you have going forward from today’s session?
Questions about rSAT, rPSAT?

Please contact members of your Midwest College Board team:

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  Executive Director, K-12 Services Midwest Region

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