ISTEP+ Practice Tests
2020-2021 Mathematics

READ ALOUD SCRIPTS for Accommodated Paper-and-Pencil Assessments
Directions for Administering the READ ALOUD SCRIPTS for Accommodated Paper-and-Pencil Assessments (Mathematics)

Directions for Administering the Part 1 Mathematics Paper Practice Test

If the English/Language Arts practice test was previously administered, make sure you redistribute the practice test books to the correct students according to their names on the front covers.

The questions in this section may ONLY be read aloud to students with an Individualized Education Program (IEP), a Section 504 Plan, Service Plan, Choice Special Education Program (CSEP), or an Individual Learning Plan (ILP) with the accommodation “Human Reader.”

Note to the Examiner:

- Read aloud ONLY the directions printed in the “SAY” boxes.
- Additional information has been provided underneath the “SAY” boxes.

After the students have arrived, each student should receive:

- A practice test book;
- A Grade 10 Mathematics Reference Sheet;
- A graphing calculator;
- A No. 2 pencil with an eraser; and
- Scratch paper.

**Bold** text that follows the word “SAY” is to be read aloud to the students. *Italicized* text is for Test Administrator information only.

**SAY**

Today you are going to take the ISTEP + Grade 10 Mathematics Practice Test. You should have a practice test book, a copy of the Grade 10 Mathematics Reference Sheet, and a calculator. Look at the front cover of your practice test book. Make sure it has your name on it, or if this is your first day of the practice tests, write your name on the Student Name line provided.

Please do not open your practice test book until I tell you to do so. Make sure you are using a No. 2 pencil with an eraser when taking this test. Pens are not allowed.

You may use your Mathematics Reference Sheet and calculator to help you solve some of the problems in the practice test. You may also use scratch paper during the test, if using it will help you. If you need a reference sheet, a calculator, and/or scratch paper, please raise your hand and I will assist
you. REMEMBER, IN THE ISTEP + GRADE 10 ASSESSMENT, ANY WORK YOU DO ON SCRATCH PAPER WILL NOT BE SCORED, SO YOU MUST MAKE SURE TO WRITE THE WORK YOU WANT SCORED IN YOUR ASSESSMENT BOOK.

Pause. Give Mathematics Reference Sheets, calculators, and scratch paper as needed to students who raise their hands.

SAY It is important to know that you must write your answers and show your work in the spaces provided. You should read the directions very carefully and do your best to answer clearly and completely. You may write on the figures or diagrams to help you find your answers. Also, to receive full credit, be sure that you complete the charts whenever you are asked to do so. Please try to solve every problem. Do not spend too much time on any one problem.

When you write an explanation, you may not need to fill ALL the lines. Your score will depend on how well you have answered the question, not on how long your answer is. Please write and draw neatly.

Are there any questions?

Pause to answer any questions the students may have.

SAY Now you are going to take Part 1, Section 1 of the Mathematics practice test.

Open your practice test book to Section 1: Mathematics, which is on page 3, and follow along as I read some important reminders you should think about as you practice. They will help you to do your best. (Pause.)

You may use a calculator to solve any of the problems in this test. NOTE: A correct answer CANNOT receive full credit if no work is shown. Since you may receive partial credit for all problems in this test, it is important to show ALL work in the spaces provided in this book. When you see the words “Show All Work,” be sure to show all the steps needed to solve the problem, make your handwriting clear and easy to read, and write the answer on the answer line.

As you complete each problem, remember to READ the problem carefully, PLAN how to solve the problem, SOLVE the problem showing all steps, and CHECK your work.

I will read aloud the question in this section to you, and I will wait while you respond. Make sure that you write your response only in the spaces provided in your test book. You may ask me to repeat questions or directions read aloud within this section as often as needed to help you complete your answers.

Are there any questions?
Pause to answer any questions the students may have. Offer any explanations necessary to clarify the questions for the students.

SAY Now turn the page and find Question 1. For this question you will need to complete Part A, Part B, and Part C. I will now read the question to you.

Consider the equation. Three times open parenthesis x minus 2 equals 3x minus 2.

Part A. Determine whether the equation has one solution, no solutions, or an infinite number of solutions. Use words, numbers, and/or symbols to justify your answer. Show all work.

Pause to allow students to complete Part A.

SAY Part B. Create a linear equation that has one solution. Include the variable on both side of the equal sign.

Pause to allow students to complete Part B.

SAY Part C. Solve your equation from Part B. Show all work.

Pause to allow students to complete Part C.

If time allows, you may read the following possible responses.

SAY For Question 1, Part A, the correct answer is that the equation 3(x – 2) = 3x – 2 has no solutions. Using the distributive property on the left-hand side, the equation can be rewritten as the equivalent equation 3x – 6 = 3x – 2. If 3x is then subtracted from both sides of this equation, the result is –6 = –2, which is not possible for any value of x. This means that there are no solutions to the original equation. When you answer a question like this, use words, numbers, and symbols to clearly explain or justify your answer to be sure the explanation is understood by the person scoring the response.

For Question 1, Part B, any equation that has the variable on both sides of the equation and has only one solution will be scored as correct. One example might be 9x + 5 = 8x + 12. For Question 1, Part C, the correct answer for the Part B example of 9x + 5 = 8x + 12 is 7. The answer can be found by subtracting 8x from both sides to get the equivalent equation x + 5 = 12. Then subtract 5 from both sides to get the solution x = 7.

SAY Question 1 is the last question in the Section 1: Mathematics Practice Test. Close your practice test book. Place your reference sheet, calculator, and scratch paper next to your practice test book. You have finished the Mathematics practice test. Good job!

If you do not intend to administer the remaining sections of the practice test at this time, collect the reference sheets, calculators, scratch paper, and assessment books. Check to be sure that no reference sheets, or scratch paper have been left in the assessment books. All used scratch paper and reference sheets that have been marked on must be collected by the School Test Coordinator and securely destroyed. Collect and securely
store the practice test books if you do not intend to continue on with one or both of the English/Language Arts practice test sections.
Directions for Administering the Part 2 Mathematics Paper Practice Test—Section 1

If English/Language Arts practice tests were completed first, distribute the books to the correct students according to their names on the front cover.

Unless specified by a student’s IEP, a Section 504 Plan, Service Plan, or CSEP, the use of calculators is not allowed for students taking the Part 2, Section 1 ISTEP + Grade 10 Mathematics assessment.

This test section may ONLY be read aloud to students if they have an IEP, a Section 504 Plan, a Service Plan, CSEP or an ILP with the accommodation “Human Reader.”

Note to the Examiner:

● Read aloud ONLY the directions printed in the “SAY” boxes.
● Additional information has been provided underneath the “SAY” boxes.

After the students have arrived, each student should receive:

● A practice test book;
● A Grade 10 Mathematics Reference Sheet;
● A No. 2 pencil with an eraser; and
● Scratch paper.

Bold text that follows the word “SAY” is to be read aloud to the students. Italicized text is for Test Administrator information only.

SAY  Today you are going to take the ISTEP + Grade 10 Mathematics Practice Test. You should have a practice test book and a copy of the Grade 10 Mathematics Reference Sheet. Look at the front cover of your practice test book. Make sure it has your name on it, or if this is your first day of the practice tests, write your name on the Student Name line provided.

Please do not open your practice test book until I tell you to do so. Make sure you are using a No. 2 pencil with an eraser when taking this test. Pens are not allowed.

You may use your Mathematics Reference Sheet to help you solve some of the problems in the practice test. You may also use scratch paper during the test, if using it will help you. If you need a reference sheet, and/or scratch paper, please raise your hand and I will assist you. For the practice test, you will mark your answers in the practice book. For the operational ISTEP + Grade 10 test, you will have an assessment book with the
questions and an answer book where you will mark your answers.

Pause. Give Mathematics Reference Sheets and scratch paper as needed to students who raise their hands.

SAY In this section, you will answer problems that have multiple choice answers. For multiple-choice questions, always look at all of the answer choices before you choose your answer. When you decide which answer is correct, fill in the circle that goes with the answer you choose. Be sure to fill in the circle completely. You may need to mark more than one answer for a question, depending on the question directions. Do not make any other marks on your test. If you want to change an answer, completely erase the mark that you made and select a new answer.

SAY Now you are going to take Section 1 of the Mathematics practice test. I will read aloud the questions in this section to you, and I will wait while you respond. You may ask me to repeat questions or directions read aloud within this section as often as needed to help you complete your answers.

Are there any questions?

Pause to answer any questions the students may have.

SAY Open your practice test book to page 4. When you have completed both Part A and Part B, we will discuss the answers.

Question 1. Use the information about Joan’s and Mike’s traveling to answer Parts A and B. The line plotted on the graph represents Mike’s distance, in miles, y, from his home after traveling a certain time, x, in minutes. The point (0, 90) represents where Joan starts driving to Mike’s house. The point (30, 70) represents the time it takes Joan to be 70 miles away from Mike’s House.

The x-axis has a range from zero to 100, increasing in increments of 20. The y-axis has a range from zero to 100, increasing in increments of 10.

Turn to Page 5. Part A. Which graph shows the line that goes through points (0, 90) and (30, 70) plotted correctly?

Option A. The x-axis has a range from zero to 100, increasing in increments of 20. The y-axis has a range from zero to 100, increasing in increments of 10.
Option B. The x-axis has a range from zero to 100, increasing in increments of 20. The y-axis has a range from zero to 100, increasing in increments of 10.

Option C. The x-axis has a range from zero to 100, increasing in increments of 20. The y-axis has a range from zero to 100, increasing in increments of 10.

Option D. The x-axis has a range from zero to 100, increasing in increments of 20. The y-axis has a range from zero to 100, increasing in increments of 10.

Pause to allow students to complete Part A.

SAY Part B. How can you use the graph to approximate the solution that best represents the time when Mike and Joan are the same distance from Mike’s home?

Option A. Determine the point on the graph where the lines cross the x-axis.

Option B. Determine the point on the graph where the lines cross the y-axis.

Option C. Determine the point on the graph where the lines intersect each other.

Option D. Determine the point on the graph where the lines intersect the origin.

Pause to allow the students to complete Question 1. When students have completed all parts of Question 1, continue.

SAY For Part A, you should have filled in circle C. For Part B, you should have filled in circle C. If you did not fill in the correct answers, completely erase the marks you made and fill in the correct answers now.

Are there any questions about the answers?

Check to be sure that the students have marked the answers correctly and answer any questions the students may have.

SAY Now look at page 6 and find Question 2. When you have finished the question, stop and we will discuss the question together.

Question 2. Select all the numbers that are rational.

Option A. The square root of 2.

Option B. Two point five.

Option C. Five.
Option D. Two over five.
Option E. Pi.

Pause to allow the students to complete Question 2.

SAY Has everyone finished answering Question 2? (Pause.)

You should have filled in circles B, C, and D. If you did not fill in
the correct answers, completely erase the marks you made,
and fill in the correct answers now. Are there any questions?

Check to be sure that the students have marked the answers correctly and
answer any questions the students may have.

SAY Now let’s look at Question 3. When you have finished Question
3, stop and we will discuss the question together.

Question 3. A calculator generated some numbers in scientific
notation.

Five point 3 E 4
Five point eight nine E negative 1
Five point four two E 3
Five point five E 1
Five point seven three E negative 1

Which list shows the numbers in order from least to greatest,
where aEb represents a times 10 to the b power?

Option A. Five point three E four, comma, five point four two E
three, comma, five point five E one, comma, five point seven
three E negative one, comma, five point eight nine E negative
one

Option B. Five point eight nine E negative one, comma, five
point seven three E negative one, comma, five point five E one,
comma, five point four two E three, comma, five point three E
four

Option C. Five point three E four, comma, five point five E one,
comma, five point four two E three, comma, five point seven
three E negative one, comma, five point eight nine E negative
one

Option D. Five point seven three E negative one, comma, five
point eight nine E negative one, comma, five point five E one,
comma, five point four two E three, comma, five point three E
four
Pause to allow the students to complete Question 3. Do not read the question aloud.

SAY Has everyone finished answering Question 3? (Pause.)

You should have filled in circle D. If you did not fill in the correct answer, completely erase the mark you made and fill in the correct answer now.

Are there any questions?

Check to be sure that the students have marked the answer correctly and answer any questions the students may have.

SAY Turn to page 7 and look at Question 4. When you have finished Question 4, stop and we will discuss the question together.

Question 4. Which equations represent a line that passes through the coordinates zero comma seven and two comma ten? Select all that apply.

Option A. y equals three-halves x plus 7
Option B. 3x minus 2y equals negative 7
Option C. y minus 7 equals two-thirds open parenthesis x minus 0 close parenthesis
Option D. y equals negative three-halves x plus 7
Option E. y minus 0 equals two-thirds open parenthesis x minus 7 close parenthesis
Option F. y equals two-thirds x minus 7
Option G. Negative 3x plus 2y equals 7
Option H. 3x minus 2y equals negative 14

Pause to allow the students to complete Question 4.

SAY You should have filled in circles A, C, and H. If you did not fill in these correct answers, completely erase the marks you made and fill in the correct answers now.

Are there any questions?

Check to be sure that the students have marked the answers correctly and answer any questions the students may have.

SAY Notice the STOP symbol at the bottom of page 7. Question 4 is the last question in the Part 2, Section 1: Mathematics Practice Test.

Remember that in the ISTEP + Grade 10 test, you will also see STOP symbols. Whenever you come to a STOP symbol, stop
working and wait quietly. You should NOT go on to the next part of the test. (Pause.)

Do you have any questions about how to mark your answers? (Pause.)

We will do some more practice problems in Part 2, Section 2 of the Mathematics practice test.

Pause to allow the students to complete Question 4. Do not read the question aloud.

Collect the scratch paper and assessment books. Check to be sure that no scratch paper has been left in the assessment books. All used scratch paper must be collected by the School Test Coordinator and securely destroyed. Securely store the practice test.

SAY  Question 4 is the last question in the Part 2, Section 1: Mathematics Practice Test. Close your practice test book. Place your reference sheet, calculator, and scratch paper next to your practice test book. You have finished the Mathematics practice test. Good job!

If you do not intend to administer the remaining sections of the practice test at this time, collect the reference sheets, calculators, scratch paper, and assessment books. Check to be sure that no reference sheets or scratch paper have been left in the assessment books. All used scratch paper and reference sheets that have been marked on must be collected by the School Test Coordinator and securely destroyed. Collect and securely store the practice test books if you do not intend to continue on with one or both of the English/Language Arts practice test sections.

Directions for Administering the Part 2 Mathematics Paper Practice Test - Section 2

All students may use a calculator when taking Part 2, Section 2 of the Grade 10 Mathematics assessment.

This test section may ONLY be read aloud to students if they have an IEP a Section 504 Plan, a Service Plan, CSEP or an ILP with the accommodation “Human Reader.”

Note to the Examiner:

● Read aloud ONLY the directions printed in the “SAY” boxes.

● Additional information has been provided underneath the “SAY” boxes.

After the students have arrived, each student should receive:
● A practice test book;
● A Grade 10 Mathematics Reference Sheet;
● A graphing calculator;
● A No. 2 pencil with an eraser; and
● Scratch paper.

**Bold** text that follows the word “SAY” is to be read aloud to the students. 
*Italicized* text is for Test Administrator information only.

**SAY**

Now you are going to take practice test Part 2, Section 2: Mathematics. Turn to page 10 and find Question 1. Notice the calculator symbol at the top of the page. This means you may use your calculator to solve some of the problems in this section.

I will read aloud the questions in this section to you, and I will wait while you respond. You may ask me to repeat questions or directions read aloud within this section as often as needed to help you complete your answers.

Question 1. Consider the quadrilateral on the coordinate grid. The x-axis has a range from negative 10 to 10, increasing in increments of 1. The y-axis has a range from negative 10 to 10, increasing in increments of 1.

Which points represent the vertices of the image of the quadrilateral after a reflection across the x-axis? Select all that apply.

Option A. one comma negative one
Option B. eight comma negative one
Option C. negative eight comma five
Option D. four comma negative five
Option E. negative eight comma one
Option F. eight comma negative 5
Option G. negative four comma five

*Pause to allow the students to complete Question 1.*

**SAY**

Has everyone finished answering Question 1? *(Pause.)*

You should have filled in circles A, B, D, and F. If you did not fill in the correct answers, completely erase the marks you made, and fill in the correct answers now.

Are there any questions?
Check to be sure that the students have marked the answers correctly and answer any questions the students may have.

SAY  Now look at Question 2 on page 11. I will read the question to you. When you have finished Question 2, stop and we will discuss the question together.

   Question 2. Which graph represents \( y = \frac{1}{2} \) to the \( x \) power?
   
   Option A. The x-axis has a range from negative 4 to 4, increasing in increments of 1. The y-axis has a range from negative -2 point zero to 2 point zero, increasing in increments of zero point 5.
   
   Option B. The x-axis has a range from negative 4 to 4, increasing in increments of 1. The y-axis has a range from negative -2 point zero to 2 point zero, increasing in increments of zero point 5.
   
   Option C. The x-axis has a range from negative 4 to 4, increasing in increments of 1. The y-axis has a range from negative -2 point zero to 2 point zero, increasing in increments of zero point 5.
   
   Option D. The x-axis has a range from negative 4 to 4, increasing in increments of 1. The y-axis has a range from negative -2 point zero to 2 point zero, increasing in increments of zero point 5.

Pause to allow the students to complete Question 2.

SAY  Has everyone finished answering Question 2? (Pause.)

SAY  You should have filled in circle C. If you did not fill in the correct answer, completely erase the mark you made, and fill in the correct answer now.

   Are there any questions?

Check to be sure that the students have marked the answers correctly and answer any questions the students may have.

SAY  Now look at Question 3 on page 12. I will read the question to you. When you have finished Question 3, stop and we will discuss the question together.

   Question 3. The sum of two numbers is less than 9. The larger number is at least twice the smaller number. If \( x \) represents the smaller number, which graph represents the solution to the system of inequalities?
   
   Option A. The x-axis has a range from negative 9 to 9, increasing in increments of 1. The y-axis has a range from negative 9 to 9, increasing in increments of 1.
Option B. The x-axis has a range from negative 9 to 9, increasing in increments of 1. The y-axis has a range from negative 9 to 9, increasing in increments of 1.

Option C. The x-axis has a range from negative 9 to 9, increasing in increments of 1. The y-axis has a range from negative 9 to 9, increasing in increments of 1.

Option D. The x-axis has a range from negative 9 to 9, increasing in increments of 1. The y-axis has a range from negative 9 to 9, increasing in increments of 1.

Pause to allow the students to complete Question 3.

SAY Has everyone finished answering Question 3? (Pause.)

For Question 3, you should have filled in circle B. If you did not fill in the correct answer, completely erase the mark you made, and fill in the correct answer now.

Are there any questions?

Check to be sure that the students have marked the answers correctly and answer any questions the students may have.

SAY Now look at Question 4 on page 14. I will read the question to you. When you have finished Question 4, stop and we will discuss the question together.

Question 4. Steve has a basket with three marbles: one red, one blue, and one white. He randomly selects a marble and records the color. He places the marble back into the basket, randomly selects another marble, and records the color. Which tree diagram represents the sample space of the experiment?

Option A. The words in the diagram are Basket of Marbles, Red Blue White, Red Blue White, Red Blue White, Blue White Red

Option B. The words in the diagram are Basket of Marbles, Red Blue Red, Red Blue White, Red Blue White, Blue White Red

Option C. The words in the diagram are Basket of Marbles, Red Blue White, Red Blue White, Red Blue White, Red White Blue

Option D. The words in the diagram are Basket of Marbles, Red Blue White, Red Red Blue, Red Blue White, Blue White Red

Pause to allow the students to complete Question 4. Do not read the question aloud.

SAY Has everyone finished answering Question 4? (Pause.)

For Question 4, you should have filled in circle A. Question 4 is the last question in the Section 2: Mathematics Practice Test. If you did not fill in the correct answer, completely erase the mark you made, and fill in the correct answer now.
Are there any questions?

Check to be sure that the students have marked the answers correctly and answer any questions the students may have.

SAY  Notice the STOP symbol at the bottom of page 14. That was the last Mathematics practice test question. Close your practice test book and place the Mathematics Reference Sheet, calculator, and any scratch paper next to your practice test book. You have completed the Mathematics practice test. Good job!

If you do not intend to administer the remaining sections of the practice test at this time, collect the reference sheets, calculators, scratch paper, and assessment books. Check to be sure that no reference sheets, or scratch paper have been left in the assessment books. All used scratch paper and reference sheets that have been marked on must be collected by the School Test Coordinator and securely destroyed. Securely store the practice test books if you do not intend to continue on with the English/Language Arts practice test section.