Math 7 - Expectations for Exit Exam

This Test-Out Exam can be completed in 60 minutes and will be limited to 90 minutes. Students will be allowed to use a scientific calculator for appropriate sections of the exam, and it will be provided in the testing platform (students do not need to bring a calculator). The exam contains both multiple choice and constructed response items. Partial credit may be earned on some items. Any of the concepts listed below may be on the test. Students must score a 77% or above to pass the exam and be placed into Math 7 for the following school year (this score reflects a closer alignment to our AGP criteria).

Content Covered in the Course:

The Troy School District curriculum is based on the Michigan Mathematics Standards. The list below gives a brief description of the topics covered in the Math 7. For a detailed explanation of the content expectations, see the complete list of Michigan Mathematics Standards for Grade 7:

https://www.michigan.gov/-/media/Project/Websites/mde/Literacy/Content-Standards/Math_Standards.pdf?rev=1e793e2b1e314e4fa1abc754251b5dc9

The Exit Exam is a comprehensive assessment of the full Troy School District Curriculum and Michigan Mathematics Standards. Students should be prepared to demonstrate their proficiency on all content.

Scale Drawings
Scaled copies
Scale factor
Corresponding angles and sides
Scale drawings
Interpreting scales and measurement

Proportional Relationships
Proportional relationships in tables, equations, and graphs
Comparing proportional and non-proportional relationships
Constant proportionality
Use of the formula $y = kx$

Circles
Understand and use of π, including solutions in terms of π
Circumference
Area, including inscribed circles, fractions of circles, composite shapes
Characteristics of a circle

Proportional Relationships and Percentages
Calculating percentages
Two-way tables
Using distributive property to rewrite expressions

Constant rate
Fractions as decimals
Percent increase and decrease compared to original
Relating fractions, decimals, and percents
Application of percentages (commission, sales tax, discount, interest, mark-ups, tips, etc.)
Percent error

Rational Number Arithmetic
Comparing and using rational numbers
Understanding and using integers
Operations with rational numbers, including solving problems in context
Write and solve equations that include rational numbers

Expressions, Equations, and Inequalities
Modeling equations in context with a diagram
Write and solve two-step equations including the use of the distributive property
Understand what the solution to an equation means in context
Solving story problems that involve equations
Writing and solving inequalities and explaining solutions in context
Graphing solutions to inequalities on the number line
Writing equivalent expressions

Angles, Triangles and Prisms
Identifying and using adjacent, complementary, supplementary and vertical angles to find missing angles, including solving equations
Application for the triangle inequality theorem
Identifying and applying cross sections and nets of prisms and pyramids
Volume and surface area of prisms including application problems

Probability and Sampling
Application of probability when expressed as a fraction, decimal, or percentage
Use of sample space to calculate probability
Calculation and use of actual and expected probability in context
Measures of center and variability
Using data from a sample of a population to make inferences about a population and to estimate comparative inferences about different populations

Students will also be expected to show proficiency in the Standards for Mathematical Practice (Common Core State Standards):

- Standard 1: Make sense of problems and persevere in solving them
- Standard 2: Reason abstractly and quantitatively
- Standard 3: Construct viable arguments and critique the reasoning of others

- Standard 4: Model with mathematics
- Standard 5: Use appropriate tools strategically
- Standard 6: Attend to precision
- Standard 7: Look for and make use of structure
- Standard 8: Look for and express regularity in repeated reasoning