**COURSE TITLE**

Pre-Algebra 7

**LENGTH**

Full Year

**DEPARTMENT**

STEM Department

**SCHOOL**

Union Middle School

**DATE**

September 10, 2018

**Initial BOE Approval Date (Born on):** 4/4/2016

# Pre-Algebra 7

## I.      Introduction/Overview/Philosophy

In Grade 7, instructional time should focus on four critical areas: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples.

## II.     Objectives

***Course Outline:***

1. Operations on Rational Numbers & Expressions
   a. Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers
   b. Use properties of operations to generate equivalent expressions
2. Equations and Ratio and Proportion
   a. Solve real-life and mathematical problems using numerical and algebraic expressions and equations
   b. Analyze proportional relationships and use them to solve real-world and mathematical problems
   c. Draw, construct, and describe geometrical figures and describe the relationships between them
3. Statistics and Probability
   a. Draw informal comparative inferences about two populations
   b. Defining outcomes, events, and sample space
   c. Approximating probability and relative frequency
4. Problem Solving with Geometry
   a. Solve real-life and mathematical problems involving angle measure, area, surface area, and volume
   b. Draw, construct, and describe geometrical figures and describe the relationships between them
   c. Solve real-life and mathematical problems using numerical and algebraic expressions and equations
5. Linear Equations
   a. Solving Linear Equations with one Variable
   b. Solving Linear Equations with two Variable
   c. Finding and Interpreting Slopes of Lines
   d. Understanding Slope-Intercept Form
   e. Writing Linear Equations
   f. Sketching Graphs of Linear Equations

***Student Outcomes:***

After successfully completing this course, the student will:

- Analyze proportional relationships and use them to solve real-world and mathematical problems
- Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers
- Draw informal comparative inferences about two populations
- Draw, construct, and describe geometrical figures and describe the relationships between them.
- Investigate chance processes and develop, use, and evaluate probability models
- Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.
- Solve real-life and mathematical problems using numerical and algebraic expressions and equations
- Use properties of operations to generate equivalent expressions
- Use random sampling to draw inferences about a population

## *New Jersey Student Learning Standards*

### CAREER READY PRACTICES

### CRP1    *Act as a responsible and contributing citizen and employee.*

Career-ready individuals understand the obligations and responsibilities of being a member of a community, and they demonstrate this understanding every day through their interactions with others. They are conscientious of the impacts of their decisions on others and the environment around them. They think about the near-term and long-term consequences of their actions and seek to act in ways that contribute to the betterment of their teams, families, community and workplace. They are reliable and consistent in going beyond the minimum expectation and in participating in activities that serve the greater good.

### CRP2    *Apply appropriate academic and technical skills.*

Career-ready individuals readily access and use the knowledge and skills acquired through experience and education to be more productive. They make connections between abstract concepts with real-world applications, and they make correct insights about when it is appropriate to apply the use of an academic skill in a workplace situation

### CRP4    *Communicate clearly and effectively and with reason.*

Career-ready individuals communicate thoughts, ideas, and action plans with clarity, whether using written, verbal, and/or visual methods. They communicate in the workplace with clarity and purpose to make maximum use of their own and others' time. They are excellent writers; they master conventions, word choice, and organization, and use effective tone and presentation skills to articulate ideas. They are skilled at interacting with others; they are active listeners and speak clearly and with purpose. Career-ready individuals think about the audience for their communication and prepare accordingly to ensure the desired outcome.

### CRP6. *Demonstrate creativity and innovation.*

Career-ready individuals regularly think of ideas that solve problems in new and different ways, and they contribute those ideas in a useful and productive manner to improve their organization. They can consider unconventional ideas and suggestions as solutions to issues, tasks or problems, and they discern which ideas and suggestions will add greatest value. They seek new methods, practices, and ideas from a variety of sources and seek to apply those ideas to their own workplace. They take action on their ideas and understand how to bring innovation to an organization.

***CRP7. Employ valid and reliable research strategies.***
Career-ready individuals are discerning in accepting and using new information to make decisions, change practices or inform strategies. They use reliable research process to search for new information. They evaluate the validity of sources when considering the use and adoption of external information or practices in their workplace situation.

***CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.***
Career-ready individuals readily recognize problems in the workplace, understand the nature of the problem, and devise effective plans to solve the problem. They are aware of problems when they occur and take action quickly to address the problem; they thoughtfully investigate the root cause of the problem prior to introducing solutions. They carefully consider the options to solve the problem. Once a solution is agreed upon, they follow through to ensure the problem is solved, whether through their own actions or the actions of others.

***CRP11.   Use technology to enhance productivity.***
Career-ready individuals find and maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems. They are flexible and adaptive in acquiring new technology. They are proficient with ubiquitous technology applications. They understand the inherent risks-personal and organizational-of technology applications, and they take actions to prevent or mitigate these risks.

***CRP12. Work productively in teams while using cultural global competence.***
Career-ready individuals positively contribute to every team, whether formal or informal. They apply an awareness of cultural difference to avoid barriers to productive and positive interaction. They find ways to increase the engagement and contribution of all team members. They plan and facilitate effective team meetings.

*TECHNOLOGY*
**Standard 8.1 Educational Technology:** All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.
***Strand A: Technology Operations and Concepts:*** Students demonstrate a sound understanding of technology concepts, systems and operations.
8.1.8.A.3- Use and/or develop a simulation that provides an environment to solve a real world problem or theory.
***Strand B. Creativity and Innovation:*** Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.
8.1.8.B.1- Synthesize and publish information about a local or global issue or event (ex. telecollaborative project, blog, school web).
***Strand D. Digital Citizenship:*** Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.
8.1.8.D.4- Assess the credibility and accuracy of digital content.
***Strand E: Research and Information Fluency:*** Students apply digital tools to gather, evaluate, and use information.
8.1.8.E.1- Effectively use a variety of search tools and filters in professional public databases to find information to solve a real world problem.
**Standard 8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming:** All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

***Strand A. The Nature of Technology: Creativity and Innovation*** Technology systems impact every aspect of the world in which we live.

8.2.8.A.2- Examine a system, consider how each part relates to other parts, and discuss a part to redesign to improve the system.

***Strand C. Design:*** The design process is a systematic approach to solving problems.

8.2.8.C.1- Explain how different teams/groups can contribute to the overall design of a product

8.2.8.C.4- Identify the steps in the design process that would be used to solve a designated problem.

## 21ST CENTURY LIFE AND CAREERS

***9.2 Career Awareness, Exploration, and Preparation***

***Strand B: Career Exploration***

9.2.8.B.3- Evaluate communication, collaboration, and leadership skills that can be developed through school, home, work, and extracurricular activities for use in a career.

***9.3 Career and Technical Education***

***Cluster: Science, Technology, Engineering & Mathematics Career Cluster***

9.3.ST-ET.5-Apply the knowledge learned in STEM to solve problems.

## NEW JERSEY STUDENT LEARNING STANDARDS- MATH

7.EE.A.1. Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.

7.EE.A.2. Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, $a + 0.05a = 1.05a$ means that "increase by 5%" is the same as "multiply by 1.05.".

7.EE.B.3. Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.

7.EE.B.4. Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.

> 7.EE.B.4a. Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently.
>
> 7.EE.B.4b. Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.

7.G.A.1: Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.

7.G.A.2. Draw (with technology, with ruler and protractor as well as freehand) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle

7.G.A.3. Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.

7.G.B.4: Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.

7.G.B.5. Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.

7.G.B.6. Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.

7.NS.A.1. Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line.

7.NS.A.1a. Describe situations in which opposite quantities combine to make 0.  For example, In the first round of a game, Maria scored 20 points. In the second round of the same game, she lost 20 points. What is her score at the end of the second round?

7.NS.A.1b. Understand $p + q$ as the number located a distance $|q|$ from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.

7.NS.A.1c. Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.

7.NS.A.1d. Apply properties of operations as strategies to add and subtract rational numbers.

7.NS.A.2. Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.

7.NS.A.2a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.

7.NS.A.2b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $-(p/q) = (-p)/q = p/(-q)$. 2c. Interpret quotients of rational numbers by describing real world contexts.

7.NS.A.2c. Apply properties of operations as strategies to multiply and divide rational numbers.

7.NS.A.2d. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.

7.NS.A.3. Solve real-world and mathematical problems involving the four operations with rational numbers.

7.RP.A.1. Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.  For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction   mph, equivalently 2 mph.

7.RP.A.2. Recognize and represent proportional relationships between quantities.

7.RP.A.2a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.

7.RP.A.2b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.

7.RP.A.2c. Represent proportional relationships by equations.

7.RP.A.2d. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate.

7.RP.A.3. Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error

7.SP.A.1.  Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.

7.SP.A.2.  Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions.  For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.

7.SP.B.3. Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability.

7.SP.B.4. Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations.  For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.

7.SP.C.5. Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.

7.SP.C.6. Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability.   For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.

7.SP.C.7. Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.

> 7.SP.C.7a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events.  For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.
>
> 7.SP.C.7b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process.

7.SP.C.8. Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.

> 7.SP.C.8a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.
>
> 7.SP.C.8b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event.
>
> 7.SP.C.8c. Design and use a simulation to generate frequencies for compound events. For example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?

8.EE.B.5. Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.

8.EE.B.6. Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b.

8.EE.C.7. Solve linear equations in one variable.

> 8EE.C.7a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).
>
> 8.EE.C.7b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.

### *Mathematical Practices*
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.

## III.    Proficiency Levels

This curriculum is appropriate for all grade 7 students.

## IV.    Methods of Assessment

**Student Assessment**
The teacher will provide a variety of assessments during the course of the year. The assessment may include but is not limited to: chapter and unit tests and quizzes, teacher observations, open-ended problems, cooperative work, and homework.

**Curriculum/Teacher Assessment**
The teacher will provide the subject area supervisor with suggestions for changes on an ongoing basis.

## V.    Grouping

This curriculum is appropriate for students in grade 7.

## VI.    Articulation/Scope & Sequence/Time Frame

Course length is one year.

## VII.    Resources

*Texts/Supplemental Reading/References*

*Math in Focus,* Marshall Cavendish, 2015

## VIII.    Suggested Activities

Appropriate activities are listed in the curriculum map.

## IX.    Methodologies

The following methods of instruction are suggested: teacher guided explorations, working in groups/working with a partner, working with manipulatives and discovery activities.

## X.    Interdisciplinary Connections

At this grade level, connections to many other disciplines are appropriate and natural. Reading and writing become an integral part of the mathematics process. Connections with science are frequent throughout both curricula. Technology plays an important part in learning mathematics as well.

## XI. Differentiating Instruction for Students with Special Needs: Students with Disabilities, Students at Risk, English Language Learners, and Gifted & Talented Students

Differentiating instruction is a flexible process that includes the planning and design of instruction, how that instruction is delivered, and how student progress is measured. Teachers recognize that students can learn in multiple ways as they celebrate students' prior knowledge. By providing appropriately challenging learning, teachers can maximize success for all students.

Differentiating in this course includes but is not limited to:

*Differentiation for Support (ELL, Special Education, Students at Risk)*
- Peer mentoring on problems
- Differentiated teacher feedback on assignments
- Modeling out problems on whiteboard
- Visual aids as we project problems on whiteboard
- Study guides
- Tiered assignments
- Scaffolding of materials and assignments
- Re-teaching and review
- Guided note taking
- Exemplars of varied performance levels
- Multi-media approach to accommodating various learning styles

*Differentiation for Enrichment*
- Supplemental reading material for independent study
- Flexible grouping
- Tiered assignments
- Topic selection by interest
- Enhanced expectations for independent study
- Elevated questioning techniques using Webb's Depth of Knowledge matrix

## XII.  Professional Development

The teacher will continue to improve expertise through participation in a variety of professional development opportunities.

## XII.   Curriculum Map/Pacing Guide

| Unit Topic | Time Allocated | Differentiating Instruction for Students with Disabilities, Students at Risk, English Language Learners, & Gifted & Talented Students | Standards | Assessments |
|---|---|---|---|---|
| **Operations on Rational Numbers & Expressions**<br>• Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers<br>• Use properties of operations to generate equivalent expressions | 8 weeks | *For support:*<br>-Real Number System guided notes and definitions<br>-Rephrase questions, directions, and explanations<br>-Visual learning<br>-Teacher modeling<br>-Scaffolding<br>-Pre-teaching vocabulary (rational/irrational numbers, expressions)<br><br>*For enhancement:*<br>-Provide Extension Activities<br>-Inquiry-based instruction<br>-Student driven projects<br>-Real world problems and scenarios | 7.NS.A.1<br>7.NS.A.2<br>7.NS.A.3<br>7.EE.A.1<br>7.EE.A.2<br>CRP1,2,4,6,7,8,11,12<br>8.1.8.A.3, 8.1.8.B.1,<br>8.1.8.D.4, 8.1.8.E.1<br>8.2.8.A.2, 8.2.8.C.1,<br>8.2.8.C.4<br>9.2.8.B.3<br>9.3.ST-ET.5 | *Formative Assessment:*<br>-Homework<br>-Questioning<br>-Do Now<br>-Classwork on Rational Numbers and Expressions<br><br>*Summative Assessment:*<br>-Number Line Project<br>-Rational Number Operations Test<br>-Expressions Quiz<br>-Expressions Website Project |
| **Equations and Ratio and Proportion**<br>• Solve real-life and mathematical problems using numerical and algebraic expressions and equations<br>• Analyze proportional relationships and use | 9 weeks | *For Support:*<br>-Guided Notes on steps to solve equations<br>-Rephrase questions, directions, and explanations<br>-Visual learning<br>-Teacher modeling<br>-Scaffolding<br><br>*For Enhancement:*<br>-Provide Extension Activities (equation | 7.EE.B.3<br>7.EE.B.4<br>7.RP.A.1<br>7.RP.A.2<br>7.RP.A.3<br>7.G.A.1<br>CRP1,2,4,6,7,8,11,12<br>8.1.8.A.3, 8.1.8.B.1,<br>8.1.8.D.4, 8.1.8.E.1 | *Formative Assessment:*<br>-Homework<br>-Questioning on Real-life Scenarios and Proportional Relationships<br>-Do Now<br>-Classwork |

| Unit Topic | Time Allocated | Differentiating Instruction for Students with Disabilities, Students at Risk, English Language Learners, & Gifted & Talented Students | Standards | Assessments |
|---|---|---|---|---|
| them to solve real-world and mathematical problems<br>• Draw, construct, and describe geometrical figures and describe the relationships between them | | enrichment)<br>-Inquiry-based instruction<br>-Student driven projects<br>-Real world problems and scenarios | 8.2.8.A.2, 8.2.8.C.1, 8.2.8.C.4<br>9.2.8.B.3<br>9.3.ST-ET.5 | *Summative Assessment*<br>-Equations Quiz<br>-Text Messaging Project<br>-Equations, Ratios, and Proportion Test |
| **Statistics and Probability**<br>• Draw informal comparative inferences about two populations<br>• Defining outcomes, events, and sample space<br>• Approximating probability and relative frequency | 7 weeks | *For Support:*<br>-Guided Notes on statistics (stem & lead, box plots, mean absolute deviation)<br>-Rephrase questions, directions, and explanations<br>-Visual learning<br>-Teacher modeling<br>-Scaffolding<br>-Use of notecards for statistics and probability definitions<br>-Use of Link It<br><br>*For Enhancement:*<br>-Adjusting the pace of lessons<br>-Higher order thinking skills<br>-Provide Extension Activities<br>-Inquiry-based instruction<br>-Student driven projects<br>-Real world problems and scenarios<br>-Use of Link It | 7.SP.3<br>7.SP.4<br>7.SP.6<br>7.SP.7<br>CRP1,2,4,6,7,8,11,12<br>8.1.8.A.3, 8.1.8.B.1, 8.1.8.D.4, 8.1.8.E.1<br>8.2.8.A.2, 8.2.8.C.1, 8.2.8.C.4<br>9.2.8.B.3<br>9.3.ST-ET.5 | *Formative Assessment:*<br>-Homework<br>-Questioning<br>-Do Now<br>-Classwork<br>-Real World Application Classwork<br><br>*Summative Assessment*<br>-Statistics Quiz<br>-Statistics PBL<br>-Probability Quiz |
| **Problem Solving with Geometry**<br>• Solve real-life and mathematical problems | 8 weeks | *For Support:*<br>-Formula sheet (volume and surface area)<br>-Calculator<br>-Rephrase questions, directions, and explanations | 7.G.B.4<br>7.G.B.5<br>7.G.B.6<br>7.G.A.2 | For*mative Assessment:*<br>-Homework<br>-Questioning<br>-Do Now |

| Unit Topic | Time Allocated | Differentiating Instruction for Students with Disabilities, Students at Risk, English Language Learners, & Gifted & Talented Students | Standards | Assessments |
|---|---|---|---|---|
| involving angle measure, area, surface area, and volume<br>• Draw, construct, and describe geometrical figures and describe the relationships between them<br>• Solve real-life and mathematical problems using numerical and algebraic expressions and equations | | -Visual learning<br>-Teacher modeling<br>-Scaffolding<br>-Pre-teaching vocabulary (rational/irrational numbers, expressions)<br><br>*For enhancement:*<br>-Provide Extension Activities (volume and surface area)<br>-Inquiry-based instruction (measuring manipulatives)<br>-Real world problems and scenarios | 7.G.A.3<br>7.EE.B.4<br>7.RP.A.3<br>CRP1,2,4,6,7,8,11,12<br>8.1.8.A.3, 8.1.8.B.1,<br>8.1.8.D.4, 8.1.8.E.1<br>8.2.8.A.2, 8.2.8.C.1,<br>8.2.8.C.4<br>9.2.8.B.3<br>9.3.ST-ET.5 | -Classwork<br>-Geometry Applications<br><br>*Summative Assessment:*<br>-Angles Quiz<br>-Circumference and area test<br>-Volume and surface area quiz<br>-Volume and surface area test |
| **Linear Equations**<br>• Solving Linear Equations with one Variable<br>• Solving Linear Equations with two Variable<br>• Finding and Interpreting Slopes of Lines<br>• Understanding Slope-Intercept Form<br>• Writing Linear Equations<br>• Sketching Graphs of Linear Equations | 8 weeks | *For support:*<br>-Rephrase questions, directions, and explanations<br>-Visual learning<br>-Teacher modeling<br>-Scaffolding<br>-Use of notecard for steps to solving equations<br>-Flipped Classroom videos on slope topics<br>-Use of Link It<br>-Hands on Slope Activities<br><br>*For enhancement:*<br>-Provide Extension Activities<br>-Inquiry-based instruction<br>-Student driven projects<br>-Real world problems and scenarios<br>-Adjusting the pace of lessons<br>-Flipped Classroom videos on slope topics<br>-Use of Link It | 8.EE.B.5<br>8.EE.B.6<br>8.EE.B.7<br>CRP1,2,4,6,7,8,11,12<br>8.1.8.A.3, 8.1.8.B.1,<br>8.1.8.D.4, 8.1.8.E.1<br>8.2.8.A.2, 8.2.8.C.1,<br>8.2.8.C.4<br>9.2.8.B.3<br>9.3.ST-ET.5 | *Formative Assessment:*<br>-Homework<br>-Questioning<br>-Do Now<br>-Classwork<br>-Link It<br>-Collaborative Teamwork<br><br>*Summative Assessment:*<br>-Solving Equations Quiz<br>-Solving Equations<br>-Chapter Test<br>-Slope Quiz<br>-Map Project on Slope |