

# Math TEKS, Grades 6-8

## 6<sup>th</sup> Grade



### 6.1. Rational Numbers

- A) Compare and order non-negative rational numbers
- B) Generate equivalent forms of rational numbers
- C) Represent real-life situations with integers
- D) Use exponents for prime factorizations
- E) Identify factors and multiples including LCM and GCF

### 6.2. Problem Solving

- A) Model addition and subtraction involving fractions in various ways
- B) Use addition and subtraction in problems with fractions and decimals
- C) Use multiplication and division in problems with equal ratios and rates
- D) Estimate and round to approximate results

### 6.3. Proportional Relationships

- A) Describe proportions using ratios
- B) Represent ratios and percents with models, fractions, decimals
- C) Use ratios to make predictions

### 6.4. Variables

- A) Represent proportions and conversions using tables and symbols
- B) Generate formulas for perimeter, area, and volume

### 6.5. Unknowns in Equations

Formulate an equation from a problem situation using letters as unknowns

### 6.6. Geometric Vocabulary

- A) Use angle measurements to classify angles as acute, obtuse, or right
- B) Identify relationships involving angles in triangles and quadrilaterals
- C) Describe the relationship between radius, diameter, and circumference

### 6.7. Coordinate Geometry

Locate and name points on a coordinate plane using non-negative ordered pairs

### 6.8. Estimation/Measurement

- A) Estimate measurements and evaluate reasonableness of results

- B) Measure/solve problems of length, area, time, temperature, capacity, and weight
- C) Measure angles
- D) Convert measures within the same measurement system

### 6.9. Probability

- A) Construct sample spaces using lists, tree diagrams, etc.
- B) Find the probabilities of a simple event and its complement

### 6.10. Analyzing Data

- A) Draw and compare different graphical representations of the same data
- B) Describe data using median, mode, and range
- C) Sketch circle graphs to display data
- D) Collect, organize, display, and interpret data to solve problems

### 6.11. Apply Math to Everyday Experiences

- A) Identify and apply mathematics to everyday experiences
- B) Use problem solving model to answer questions
- C) Select or develop an appropriate problem-solving strategy to solve problems
- D) Select appropriate tools to solve problems

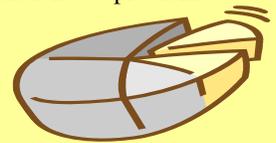
### 6.12. Communication

- A) Communicate mathematical ideas using words, graphs, and models
- B) Evaluate how effective different representations are to convey ideas

### 6.13. Logical Reasoning

- A) Make conjectures from patterns or sets of examples and non-examples
- B) Validate conclusions using mathematical properties and relationships

- B) Add, subtract, multiply, and divide fractions and decimals to find answers
- C) Use models to connect mathematical operations to algorithms
- D) Use division to find unit rates and ratios in proportional relationships
- E) Simplify numerical expressions by order of operations and exponents
- F) Select and use appropriate operations to solve problems
- G) Determine the reasonableness of a solution to a problem



### 7.3. Proportional Relationships

- A) Estimate and find solutions to application problems involving percent
- B) Estimate and find solutions to application problems involving proportions

### 7.4. Relationship Among Different Forms

- A) Make formulas for conversions, perimeter, area, volume, and scaling
- B) Graph data to demonstrate relationships using familiar concepts
- C) Describe relationship between terms in a sequence and their positions

### 7.5. Equations

- A) Use concrete models to solve equations and symbols to record actions
- B) Formulate a possible problem situation when given a simple equation

### 7.6. Geometric Properties

- A) Use angle measurements to classify pairs of angles
- B) Use properties to classify shapes
- C) Use properties to classify solids
- D) Use critical attributes to define similarity

### 7.7. Coordinate Geometry

- A) Locate and name points on a coordinate plane using ordered pairs
- B) Graph translations on a coordinate plane

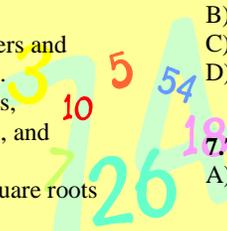
## 7<sup>th</sup> Grade

### 7.1. Equivalent Forms

- A) Compare and order integers and positive rational numbers.
- B) Convert between fractions, decimals, whole numbers, and percents
- C) Represent squares and square roots using geometric models

### 7.2. Solve Problems/Justify Solutions

- A) Represent multiplication and division with fractions and decimals



### 7.8. Physical World Representation

- A) Sketch a solid when given the top, side, and front views
- B) Make a two-dimensional model of the surface area of a solid
- C) Use geometric concepts and properties to solve problems

### 7.9. Estimation/Measurement

Estimate measurements and solve problems involving length, area, and volume

### 7.10. Probability of Real World Events

- A) Construct sample spaces for compound events
- B) Find approximate probability of a compound event through experiments

### 7.11. Interpretation of Data

- A) Select and use an appropriate representation for presenting data
- B) Make inferences and convincing arguments based on analysis of data

### 7.12. Describe Data

- A) Describe a set of data using mean, median, mode, and range
- B) Choose among mean, median, mode, or range to describe a set of data

### 7.13. Real-World Applications

- A) Identify and apply mathematics to everyday experiences
- B) Use a problem-solving model that solves a problem using a plan
- C) Select or develop an appropriate problem-solving strategy
- D) Select from among various tools to solve problems

### 7.14. Communication

- A) Communicate mathematical ideas through various means
- B) Evaluate the effectiveness of different representations to present ideas

### 7.15. Logical Reasoning

- A) Make conjectures from patterns or sets of examples or non-examples
- B) Validate conclusions using mathematical properties and relationships

- C) Approximate the value of irrational numbers from problem situations
- D) Express large and small numbers in scientific notation using a calculator

### 8.2. Appropriate Operations

- A) Use appropriate operations to solve problems
- B) Add, subtract, multiply, and divide rational numbers in problems
- C) Evaluate a solution for reasonableness
- D) Use multiplication by a unit rate to represent proportional relationships

### 8.3. Proportional Relationships

- A) Compare and contrast proportional and non-proportional relationships
- B) Find solutions to problems involving percents and rates

### 8.4. Connections Among Numerical Relationships

Present data in various visual forms and see the connections between them

### 8.5. Predict/Solve Problems

- A) Estimate, find, and justify solutions to application problems
- B) Use an algebraic expression to find any term in a sequence

### 8.6. Transformation Geometry

- A) Generate similar shapes using dilations



- B) Graph dilations, reflections, and translations on a coordinate plane

### 8.7. Geometry to Model and Describe

- A) Draw solids from different perspectives
- B) Use geometric concepts and properties to solve problems
- C) Use pictures or models to demonstrate the Pythagorean Theorem
- D) Locate and name points on a coordinate plane using ordered pairs

### 8.8. Measurement of Solids

- A) Find the surface area of prisms and cylinders using models and nets
- B) Connect models to formulas for volumes of different 3-D shapes
- C) Estimate answers and use formulas to find surface area and volume

### 8.9. Indirect Measurement

- A) Use the Pythagorean Theorem to solve real-life problems
- B) Use proportions in similar shapes to find missing measurements



### 8.10. Changes in Dimensions

- A) Describe effects on perimeter and area as a shape's dimensions change
- B) Describe effects on volume when dimensions of a solid are changed

### 8.11. Theoretical/Experimental Probability

- A) Find probabilities of compound events
- B) Use probabilities and experimental results to predict and make decisions
- C) Use different models to simulate an event

### 8.12. Statistical Procedures

- A) Select the appropriate measure of central tendency to describe set data
- B) Draw conclusions and make predictions by analyzing a scatter plot
- C) Construct circle and bar graphs and histograms

### 8.13. Evaluation of Statistical Data

- A) Evaluate methods of sampling for validity of inferences from the data set
- B) Recognize misuses of information and evaluate predictions

### 8.14. Real-World Applications

- A) Identify and apply mathematics to everyday experiences
- B) Use problem-solving model
- C) Select an appropriate problem solving strategy
- D) Select from among various tools to solve problems

### 8.15. Communication

- A) Communicate mathematical ideas using language, tools, and models
- B) Evaluate the effectiveness of different representations to communicate

### 8.16. Logical Reasoning

- A) Make conjectures from patterns or sets of examples and non-examples
- B) Validate conclusions using mathematical properties and relationships

## 8<sup>th</sup> Grade

### 8.1. Equivalent Forms

- A) Compare and order rational numbers in various forms
- B) Use the correct form of rational numbers to solve real-life problems