7TH GRADE MATH PRIORITY STANDARDS- "I CAN…"

Ratios and Proportional Relationships

- I can compute a unit rate. (7.RP.1)
- I can analyze two ratios to determine if they are proportional to one another with a variety of strategies (ex: tables, graphs or pictures). (7.RP.2a)
- I can analyze tables, graphs, equations, diagrams and verbal descriptions to identify unit rate and define it as the constant of proportionality.
- I can represent proportional relationships by writing equations. (7.RP.2b)
- I can explain what the points on a graph of a proportional relationship mean in terms of a specific situation and recognize what (0,0) and (1,r) on a graph represents, where r is the unit rate.(7.RP.2c)
- I can apply proportional reasoning to solve multistep ratio and percent problems (ex: simple interest, tax, markups, markdowns, gratuities, commissions, fees, percent increase and decrease or percent errors).(7.RP.3)

The Number System

- I can apply what I have learned about addition and subtraction to add and subtract rational numbers. (7.NS.1)
- I can describe situations where opposite quantities combine to make 0 (0 pair) (7.NS.1a)
- I can explain and justify why the sum of $p + q$ is located a distance of $|q|$ in the positive or negative direction from p on a number line. (7.NS.1b)
- I can identify subtraction of rational numbers as adding the additive inverse property to subtract rational numbers, $p-q=p+(-q)$. (7.NS.1c)
- I can apply what I have learned about multiplication and division of fractions to multiply and divide rational numbers. (7.NS.2)
- I can recognize and describe the rules when multiplying signed numbers and apply the order of operations, particularly the distributive property, to multiply rational numbers (ex: $(-1)(-1)=1$). (7.NS.2a)
- I can understand and describe the rules when dividing signed numbers and integers and recognize that $-(p/q)=(-p)/q=p/(-q)$. (7.NS.2b)
- I can change a rational number to a decimal using long division and explain how the decimal form of a rational number terminates or repeats. (7.NS.2d)
- I can solve real-world problems by adding, subtracting, multiplying and dividing rational numbers, including complex fractions.(7.NS.3)

Expressions and Equations

- I can combine like terms to factor and expand linear expressions with rational coefficients using the distributive property. (7.EE.1)
- I can use properties of operations to write equivalent expressions. (7.EE.2)
- I can solve multi-step real-world and mathematical problems using positive and negative rational numbers in any form (whole numbers, fractions and decimals). (7.EE.3)
- I can use variables to represent numbers in real-world or mathematical problems and make reasonable simple equations and inequalities to solve problems. (7.EE.4)
- I can identify and fluently solve equations in the form $px+q=r$ and $p(x+q)=r$ (7.EE.4a)
- I can write and solve word problems leading to inequalities in the form $px+q>r$ or $px+q<r$. (7.EE.4b)
- I can graph and explain the solution of an inequality. ((7.EE.4b)

Geometry

- I can solve real-world and mathematical problems involving angle measure, area, surface area and volume. (7.G.6)

Statistics and Probability

- I can use random sampling to draw conclusions about a population. (7.SP.1, 7.SP.2)
- I can use data to compare two populations (means/medians/ranges). (7.SP.4)
- I can develop a probability model, use it to find and compare probabilities of events. 7.SP.7)
- I can find the probabilities of compound events using organized lists, tables, tree diagrams and simulation. (7.SP.8)

8 STANDARDS FOR MATHEMATICAL PRACTICE: GRADES K- 12

Mathematical Practice	How a student can use the standard. Student "I can" statements.	How a parent or caregiver can support the standard.
Make sense of problems and persevere in solving them.	• I can make a plan for solving the problem. • I can keep going even when it is difficult. • I can check if my answer is reasonable. • I can solve it in another way to check my answer. • I can visualise the problem to help me make a plan to solve it. • I will try another strategy if my first one does not work.	• Allow time for students to think when asking questions. • "What plan can you make to solve this problem?" • "What information is in the problem and what are you trying to figure out?" • For word problems encourage them to explain what it is about without considering the math or how to solve it first. • Encourage the math to become about the process/students thinking rather than the one right answer. • "Why do you think that might be the answer?"
Reason abstractly and quantitatively	• .I can use numbers and words to help make sense of the problem. • I can think about the relationships between the numbers in the problem. • I can think about what each number or variable in the problem represents. • I can show the problem in ways that are not the standard algorithm (symbols, pictures, manipulatives, etc.) • I can explain my thinking.	• "Can you explain what the numbers or variables in the problem mean?" • "How did you decide to use this operation or strategy?" • Ask questions that help lead students to understanding. • Encourage critical thinking and reasoning. • Encourage students to explain their thinking even if the answer is not correct.
Construct viable arguments and critique the reasoning of others.	• I can ask questions to clarify my understanding. • I can make connections to other strategies. • I can communicate to others what I am thinking and why. • I can justify my answer/conclusion. • I can consider the thinking of other students. • I can use mathematical language and evidence to support my answer.	• "How did you get your answer?" • "How do you know that your answer is correct?" • Ask clarifying questions. • Establish an environment where the student is not afraid to get the answer incorrect as long as they can explain their reasoning.
Model with mathematics	• I can relate mathematics to real life situations. • I can use pictures, words, objects, or symbols to solve problems. • I can use different manipulatives (ex. number lines, arrays, base 10 blocks, algebra tiles, etc.) to represent and solve my problem.	• What model can you use to help you solve this problem?" • "Can you visualize what is happening in this problem?" • Point out where math is in real life situations.

8 STANDARDS FOR MATHEMATICAL PRACTICE: GRADES K- 12

Mathematical Practice	How a student can use the standard. Student "I can" statements.	How a parent or caregiver can support the standard.
Use appropriate tools strategically.	• I can select and use math tools such as number lines, calculators, objects, tables, graphs, words, manipulatives, etc. to help me solve the problem. • I can explain why I chose a specific tool to solve the problem. • I can estimate to help me solve the problem.	• "Is there a tool that might help you solve this problem?" • "What information do you have/know that might help you solve this problem?" • "Why did you choose this tool to help you solve this problem?" • "Before you solve the problem can you estimate the answer?" • Encourage them to find everyday items to help solve the problem.
Attend to precision.	• I always think about whether my answer is reasonable. • I am able to communicate to others using mathematics vocabulary so that they understand what I am doing. • I am precise in my calculations. • I use appropriate symbols and units of measure.	• "How do you know that your solution is reasonable?" • "What units of measure are you using?" • Encourage students to use mathematical language. • Encourage students to take their time and always have a reason for their actions. • Encourage students to explain exactly what they do and do not understand. (Discourage the phrase, "I do not get any of it")
Look for and make use of structure.	• I look for patterns that can help me solve a problem. • I can relate other problems that I have solved previously to help me solve new problems. • I try to connect mathematical ideas.	• "What are some other problems that are similar to this one?" • "Do you see any patterns/similarities in the problems you have been solving?"
Look for and express regularity in repeated reasoning.	• I can notice when calculations are repeated and use these ideas to create a strategy. • I can create rules for patterns. • I can determine if my answer is reasonable..	• Encourage students to create rules for patterns they observe and explore if they are always true. • "What do you think is happening in this problem?" • "What shortcut can you think of that will always work for these kinds of problems?"