7th Grade Math

Quarter 1 Standards

1. **7.M.EE.A.01:** The Highly Proficient student can apply mathematical properties to expand linear expressions, create equivalent expressions, and explain key terms and factors.
2. **7.M.EE.A.02:** The Highly Proficient student can rewrite an expression in different forms, and understand the relationship between the different forms and their meanings in a problem context. *For example, a + 0.05a = 1.05a means that "increase by 5%" is the same as "multiply by 1.05."*
3. **7.M.EE.B.03:** The Highly Proficient student can solve multi-step mathematical problems and problems in real-world context posed with positive and negative rational numbers in any form. Convert between forms as appropriate and assess the reasonableness of answers. *For example, If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50 per hour.*
4. **7.M.EE.B.04a:** The Highly Proficient student can create a model and solve real-world or mathematical problems using equations with rational coefficients and explains what the solution means.
5. **7.M.EE.B.04b:** The Highly Proficient student can create a model and solve real-world or mathematical problems using inequalities with rational coefficients and explains what the solution means.
6. **7.M.NS.A.01ab:** The Highly Proficient student can justify the steps to add and subtract rational numbers and interpret the sums in real world context.
7. **7.M.NS.A.01c**: The Highly Proficient student can understand subtraction of rational numbers as adding the additive inverse, $p – q = p + (–q)$. The Highly Proficient student can 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.
8. **7.M.NS.A.01d:** The Highly Proficient student can apply properties of operations as strategies to add and subtract rational numbers.
9. **7.M.NS.A.02ab:** The Highly Proficient student can multiply and divide to justify the product and quotient in real world situations.
10. **7.M.NS.A.02c:** The Highly Proficient student can apply properties of operations as strategies to multiply and divide rational numbers.
11. **7.M.NS.A.02d:** The Highly Proficient student convert a rational number to a decimal form using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.

12. **7.M.NS.A.03:** The Highly Proficient student can create a story problem to model a given number sentence based on a real-world context and uses this to solve problems.

Quarter 2 Standards

1. **7.M.G.A.01:** The Highly Proficient student can use a scale drawing to calculate the actual dimensions of a figure and reproduce a scale drawing using a different scale.
2. **7.M.G.A.02:** The Highly Proficient student can justify the conditions for a unique triangle, more than one triangle or no triangle.
3. **7.M.G.B.04:** The Highly Proficient student can explain why the formulas for area and circumference work and explain the relationship between area of a circle and area of a parallelogram.
4. **7.M.G.B.05:** The Highly Proficient student can write and solve multi-step equations to find missing angles formed by intersecting lines.
5. **7.M.RP.A.01**: The Highly Proficient student can compute unit rates associated with ratios involving both simple and complex fractions, including ratios of quantities measured in like or different units.
6. **7.M.RP.A.02:** The Highly Proficient student can describe the constant rate of change and identify, extend, and create a proportional relationship in context.
7. **7.M.RP.A.03:** The Highly Proficient student can create equivalent proportional equations that could be used to solve the same ratio/percent problem.

Quarter 3 Standards

1. **7.M.G.A.03:** The Highly Proficient student can describe and draw 2-D figures that result from slicing a right prism or pyramid.
2. **7.M.G.B.06a:** The Highly Proficient student can solve surface area of 3D shapes to solve real world problems.
3. **7.M.G.B.06b:** The Highly Proficient student can use relationships between volume and surface area to solve real-world problems.
4. **7.M.SP.A.02:** The Highly Proficient student can justify and create the best method to represent the sample and the impact of the prediction.
5. **7.M.SP.C.06**: The Highly Proficient student can recognize and justify the relationship between the experimental and theoretical probability.

Quarter 4 Standards

1. **7.M.SP.A.01:** The Highly Proficient student can 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. The Highly Proficient student can understand that random sampling tends to produce representative samples and support valid inferences.
2. **7.M.SP.B.03**: The Highly Proficient student can compare two visual representations of data to make comparative inferences, using measures of central tendency and variability, about two populations in context.
3. **7.M.SP.B.04:** The Highly Proficient student can 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.
4. **7.M.SP.C.05**: The Highly Proficient student can 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.
5. **7.M.SP.C.07**: The Highly Proficient student can develop a probability model and use it to find probabilities of events. The Highly Proficient student can compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.