

8th Grade Math Standards

Math Essential Standards:

Benchmark 1:

1. **8.M.EE.A.02**: The Highly Proficient student can explain how square roots and cube roots relate to each other and to their radicands. - **5 days**
2. **8.M.NS.A.02**: The Highly Proficient student can explain how to get more precise approximations of square roots, and notices and explains the patterns that exist when writing rational numbers. - **10 days**
3. **8.M.EE.C.07**: The Highly Proficient student can justify why a multi-step equation has one solution, infinitely many solutions, or no solution. - **10 days**
4. **8.M.F.A.03**: The Highly Proficient student can explain why the function is linear or nonlinear. - **10 days**
5. **8.M.F.B.05**: The Highly Proficient student can interpret qualitative features of a function in a context. - **10 days**
6. **8.M.G.A.05**: The Highly Proficient student can give an informal argument that a triangle can only have one 90 degree angle and for the pairs of angles that are supplementary when parallel lines are cut by a transversal. - **5 days**

Benchmark 2:

1. **8.M.EE.B.05**: The Highly Proficient student can generate a representation of a proportional relationship with specific qualities. - **10 days**
2. **8.M.F.A.02**: The Highly Proficient student can justify whether two functions represented in different ways are equivalent or not by comparing their properties. - **20 days**
3. **8.M.F.B.04**: The Highly Proficient student can identify what prevents a set of values in either a table or graph from being linear and adjusts the values to make them linear. - **20 days**
4. **8.M.SP.A.01**: The Highly Proficient student can create and interpret scatter plots and find associations between two quantities. - **15 days**
5. **8.M.SP.A.03**: The Highly Proficient student can create and use a linear model to interpret the slope and y-intercept. - **15 days**
6. **8.M.SP.A.04**: The Highly Proficient student can interpret and compare relative frequencies to identify patterns of association. - **15 days**

Benchmark 3:

1. **8.M.EE.A.01**: The Highly Proficient student can utilize properties of exponents to order and/or evaluate multiple expressions with exponents. - **10 days**
2. **8.M.EE.A.04**: The Highly Proficient student can calculate and interpret values written in scientific notation within a context. - **10 days**
3. **8.M.EE.C.08**: The Highly Proficient student can solve real-world and mathematical problems, using two equations with two variables. - **15 days**

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4. **8.M.G.B.07-08**: The Highly Proficient student can recognize situations and apply the Pythagorean Theorem in multi- step problems. The Highly Proficient student can find the coordinates of a point which is a given distance from another point in any direction, including diagonals. - **10 days**

Benchmark 4:

1. **8.M.G.C.09**: The Highly Proficient student can describe the relationship between the formulas for volumes of cones, cylinders, or spheres and explain how to find the formulas for cones, cylinders, and spheres. - **10 days**
2. **8.M.G.A.03-04**: The Highly Proficient student can recognize and explain the properties of transformations in real-world scenarios, including whether the transformations lead to similar or congruent figures. - **10 days**

Math Yearly Standards:

- ★ **None**

Math Additional Standards:

1. **8.M.NS.A.01**: Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number. **(Month 1 & 2)**
2. **8.M.EE.B.06**: 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 . **(Month 4)**
3. **8.M.F.A.01**: Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. (Function notation is not required in Grade 8.) **(Month 4)**
4. **8.M.SP.A.02**: Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line. **(Month 5)**
5. **8.M.EE.A.03**: Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3×10^8 and the population of the world as 7×10^9 , and determine that the world population is more than 20 times larger. **(Month 7)**
6. **8.M.G.B.06**: Explain a proof of the Pythagorean Theorem and its converse. **(Month 8)**

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7. **8.M.G.A.01**: Verify experimentally the properties of rotations, reflections, and translations: 1. Lines are taken to lines, and line segment to line segments of the same length. 2. Angles are taken to angles of the same measure. 3. Parallel lines are taken to parallel lines. **(Month 10)**
8. **8.M.G.A.02**: Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them. **(Month 10)**