

Unit 1 - Number System

Students will be able to:

1. Find square roots of perfect squares.
2. Evaluate expressions involving square roots.
3. Use square roots to solve equations.
4. Find cube roots of perfect cubes.
5. Evaluate expressions involving cube roots.
6. Use cube roots to solve equations.
7. Provide geometric proof of the Pythagorean Theorem.
8. Use the Pythagorean Theorem to find missing side lengths of right triangles.
9. Solve real-life problems using Pythagorean Theorem..
10. Define irrational numbers.
11. Approximate square roots.
12. Approximate values of expressions involving irrational numbers.
13. Write a repeating decimal as a fraction.
14. Use the converse of the Pythagorean Theorem to identify right triangles.
15. Use the Pythagorean Theorem to find distances in a coordinate plane.

Timeframe	Resources
Approximately 18 Days	<p><u>Digital/Print Resources</u></p> <ul style="list-style-type: none"> ● Big Ideas Math Blue Textbook: Chapter 7 ● Big Ideas Math Purple Textbook: Chapters 9 and 10 ● Schoology Resources <p><u>Technology Resources</u></p> <ul style="list-style-type: none"> ● Geogebra ● NearPod ● Notability ● Calculator ● Smartboard
Assessments	
<p><u>Unit 1 Assessment</u> Real Numbers & Pythagorean</p>	

Unit 2 – Expressions & Equations

Students will be able to:

1. Solve simple equations using addition, subtraction, multiplication or division.
2. Use inverse operations to solve multi-step equations.
3. Use the Distributive Property to solve multi-step equations.
4. Solve equations with variables on both sides.
5. Determine whether equations have no solution or infinitely many solutions.
6. Understand that lines represent solutions of linear equations.
7. Graph linear equations by creating a table.
8. Use similar triangles on the coordinate plane to show that slope is the same distance between any two points on the coordinate plane.
9. Find the slope of lines by using two points and from tables.
10. Write and graph proportional relationships.
11. Interpret the slope as the unit rate of the graph.
12. Find slopes and y-intercepts of graphs of linear equations.
13. Graph linear equations written in slope-intercept form.
14. Rewrite standard form equations in slope-intercept form
15. Describe how $y = mx$ is related to $y = mx + b$.
16. Interpret the y-intercept.
17. Write equations of lines in slope-intercept form.
18. Compare linear equations that are written in different ways (u.e. one equation, one table)
19. Solve systems of linear equations by graphing
20. Interpret the point of intersection of a system of linear equations by graphing as the point where the two lines cross.
21. Interpret the point of intersection as the x and y value that satisfies BOTH equations.
22. Write a system of linear equations from a graph.
23. Solve real life situations of systems of equations by graphing.
24. Solve systems of linear equations with no solution or infinitely many solutions by looking at the equations written in slope-intercept form.

Timeframe	Resources
Approximately 68 Days	<p><u>Digital/Print Resources</u></p> <ul style="list-style-type: none"> ● Big Ideas Math Blue Textbook: Chapters 1, 4, 5 ● Big Ideas Math Purple Textbook: Chapters 1, 2, 4

Assessments	<ul style="list-style-type: none">● Schoology Resources
<u>Unit 2A Assessment</u> Equations	<u>Technology Resources</u>
<u>Unit 2B Assessment</u> Linear Equations	<ul style="list-style-type: none">● Geogebra● NearPod● Notability
<u>Unit 2C Assessment</u> Graphing Systems of Equations	<ul style="list-style-type: none">● Calculator● Smartboard

Unit 3 - Functions

Students will be able to:

1. Define relations and functions.
2. Determine whether relations are functions.
3. Describe patterns in mapping diagrams.
4. Write function rules.
5. Use input-output tables to represent functions.
6. Use graphs to represent functions.
7. Understand that the equation $y = mx + b$ defines a linear function.
8. Write linear functions using graphs or tables.
9. Compare linear functions.
10. Identify linear and nonlinear functions from tables or graphs.
11. Compare linear and nonlinear functions.
12. Analyze the relationship between two quantities using graphs.
13. Sketch graphs to represent the relationship between two quantities.

Timeframe	Resources
Approximately 15 Days	<p><u>Digital/Print Resources</u></p> <ul style="list-style-type: none"> ● Big Ideas Math Blue Textbook: Chapter 6 ● Big Ideas Math Purple Textbook: Chapters 5, 6, 8, 11 ● Schoology Resources <p><u>Technology Resources</u></p> <ul style="list-style-type: none"> ● Geogebra ● NearPod ● Notability ● Calculator ● Smartboard
Assessments	
<u>Unit 3 Assessment</u> Functions	

Unit 4 - Geometry

Students will be able to:

1. Find the volumes of cylinders, cones, spheres.
2. Find the heights of cylinders and cones given the volumes.
3. Solve real-life problems of volume and heights of cylinders and cones.
4. Find the radii of spheres given the volumes.
5. Solve real-life problems of volume of spheres.
6. Provide geometric proof of the Pythagorean Theorem.
7. Use the Pythagorean Theorem to find missing side lengths of right triangles.
8. Solve real-life problems using Pythagorean Theorem..
9. Use the converse of the Pythagorean Theorem to identify right triangles.
10. Use the Pythagorean Theorem to find distances in a coordinate plane.

Timeframe	Resources
Approximately 40 Days	<p><u>Digital/Print Resources</u></p> <ul style="list-style-type: none"> ● Big Ideas Math Blue Textbook: Chapters 7 and 8 ● Big Ideas Math Purple Textbook: Chapter 10 ● Schoology Resources <p><u>Technology Resources</u></p> <ul style="list-style-type: none"> ● Geogebra ● NearPod ● Notability ● Calculator ● Smartboard
Assessments	
<p><u>Unit 4A Assessment</u> Volume</p> <p><u>Unit 4A Assessment</u> Pythagorean Theorem</p>	

Unit 5 - Statistics & Probability

Students will be able to:

1. Construct and interpret scatter plots.
2. Describe patterns in scatter plots.
3. Find lines of fit.
4. Use lines of fit to solve problems.
5. Read, make, and interpret two-way tables.

Timeframe	Resources
Approximately 10 Days	<p><u>Digital/Print Resources</u></p> <ul style="list-style-type: none"> ● Big Ideas Math Blue Textbook: Chapter 9 ● Big Ideas Math Purple Textbook: Chapter 12 ● Schoology Resources <p><u>Technology Resources</u></p> <ul style="list-style-type: none"> ● Geogebra ● NearPod ● Notability ● Calculator ● Smartboard
Assessments	
<p><u>Unit 5 Assessment</u> Data Analysis & Displays</p>	