Unit 1 Outline: Constructions & Rigid Transformations

Constructions:

1- Build It

2- Constructing Patterns

3- Perpendicular Bisectors

4- Equilateral Triangles

5- Perpendicular LInes & Angle Bisectors

6- Parallel & Perpendicular Lines

7- Squares

8- Using Technology for Constructions

9-Speedy Delivery

Quiz 1: Constructions

Rigid Transformations:

10- Rigid Transformations

11- Defining Reflections

12- Defining Translations

13-Incorporating Rotations

14- Defining Rotations

15- Symmetry

16- More Symmetry

17- Working with Rigid Transformations

18- Practicing Point by Point Transformations

Quiz 2: Rigid Transformations

Evidence and Proof:

19- Evidence, Angles, and Proof

20- Transformations, Transversals, and Proof

21- One Hundred and Eighty

Quiz 3: Evidence and Proof

Designs:

22- Now What Can You Build?

Project:

Artistic Geometric Constructions

Unit 2 Outline: Congruence

Congruent Triangles:

1- Congruent Parts, Part 1

2- Congruent Parts, Part 2

3- Congruent Triangles, Part 1

4- Congruent Triangles, Part 2

5- Points, Segments, and Zigzags

6- Side-Angle-Side Triangle Congruence

7- Angle-Side-Angle Triangle Congruence

8- The Perpendicular Bisector Theorem

9- Side-Side-Side Triangle Congruence

10- Practicing Proofs

11- SIde-Side-Angle (Sometimes) Congruence

Quiz 1: Congruent Triangles

Proofs about Quadrilaterals :

12- Proofs and Quadrilaterals

13- Proofs about Parallelograms

14- Bisect It

Quiz 3: Proofs about Quadrilaterals

Putting it All Together:

15- Congruence for Quadrilaterals

Project:

Architectural Congruent Triangles

Unit 3 Outline: Similarity

Properties of Dilations:

1- Scale Drawings

2- Scale of the Solar System

3- Measuring Dilations

4-Dilating Lines and Angles

5- Splitting Triangle Sides with Dilation, Part 1

Quiz 1: Properties of Dilations

Similarity Transformations and Proportional Reasoning:

6- Connecting Similarity and Transformations

7- Reasoning about Similarity with Transformations

8- Are They All Similar

9- Conditions for Triangle Similarity

10- Other Conditions for Triangle Similarity

11- Splitting Triangle Sides with Dilation, Part 2

12- Practice With Proportional Relationships

Quiz 2: Similarity Transformations and Proportional Reasoning

Similarity in Right Triangles:

13- Using the Pythagorean Theorem & Similarity

14- Proving the Pythagorean Theorem

15- Finding All the Unknown Values in Triangles

Putting it All Together:

16- Bank Shot

Project:

Logos Using Congruence & Similarity

Unit 4 Outline: Right Triangle Trigonometry

Angles and Steepness:

1- Angles and Steepness

2- Half a Square

3- Half an Equilateral Triangle

4- Ratios in Right Triangles

5- Working with Ratios in Right Triangles

Quiz 1: Angles and Steepness

Defining Trigonometric Ratios:

6- Working with Trigonometric Ratios

7- Applying Ratios in Right Triangles

8- Sine and Cosine in the Same Right Triangle

9- Using Trigonometric Ratios to Find Angles

10- Solving Problems with Trigonometry

11- Approximating Pi

Quiz 2: Defining Trigonometric Ratios

Project:

Unit 5 Outline: Solid Geometry

Cross Sections, Scaling, and Area:

1- Solids of Rotation

2- Slicing Solids

3- Creating Cross Sections by Dilating

4- Scaling and Area

5- Scaling and Unscaling

Quiz 1: Cross Sections, Scaling, and Area

Scaling Solids:

6- Scaling Solids

7- The Root of the Problem

8- Speaking of Scaling

Quiz 2: Scaling Solids

Prism and Cylinder Volumes:

9- Cylinder Volumes

10- Cross Sections and Volume

11- Prisms Practice

Quiz 3: Prism and Cylinder Volumes

Understanding Pyramid Volumes :

12- Prisms and Pyramids

13- Building a Volume Formula for a Pyramid

14- Working with Pyramids

15- Putting All the Solids Together

Quiz 4: Understanding Pyramid Volumes

Putting it All Together:

16- Surface Area and Volume

17- Volume and Density

18- Volume and Graphing

Project:

Unit 6 Outline: Coordinate Geometry

Transformations in the Plane:

1- Rigid Transformations in the Plane

2- Transformations as Functions

3- Types of Transformations

Quiz 1: Transformations in the Plane

Distances, Circles, and Parabolas:

4- Distances and Circles

5- Squares and Circles

6- Completing the Square

7- Distances and Parabolas

8- Equations and Graphs

Quiz 2: Distances, Circles, and Parabolas

Proving Geometric Theorems Algebraically:

9- Equations of Lines

10- Parallel Lines in the Plane

11- Perpendicular Lines in the PLane

12- It's All on the Line

13- Intersection Points

14- Coordinate Proof

15- Weighted Averages

16- Weighted Averages in a Triangle

Quiz 3: Proving Theorems Algebraically

Putting it All Together:

Lines in Triangles

Project:

Unit 7 Outline: Circles

Lines, Angles, and Circles:

1- Lines, Angles, and Curves

2- Inscribed Angles

3- Tangent Lines

Quiz 1: Lines, Angles, and Curves

Polygons and Circles:

4- Quadrilaterals in Circles

5- Triangles in Circles

6- A Special Point

7- Circles in Triangles

Quiz 2: Polygons and Circles

Measuring Circles:

8- Arcs and Sectors

9- Part to Whole

10- Angles, Arcs, and Radii

11- A New Way to Measure Angles

12- Radian Sense

13- Using Radians

Quiz 3: Measuring Circles

Putting it All Together:

14- Putting it All Together

Project:

Unit 8 Outline: Conditional Probability

Up to Chance:

1- Up to Chance

2- Playing with Probability

Quiz 1: Up to Chance

Combining Events:

5- Combining Events

6- The Addition Rule

Quiz 2: Combining Events

Related Events:

7- Related Events

8- Conditional Probability

9- Using Tables for Conditional Probability

10- Using Probability to Determine Whether Events are Independent

Quiz 3: Related Events

Conditional Probability:

11: Probabilities in Games

Project:

Using Probability to Make Decisions