**Subject: Geometry**

**Grade: 10th**

**Textbook: Geometry Common Core**

**By Pearson**

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 In this course students will acquire tools to help them explore two-dimensional and three-dimensional space. These tools include Euclidean geometry, rigid motion transformations, dilations and similarity, and coordinate geometry. Students will learn how to prove various geometric facts about triangles, quadrilaterals, and circles by using axiomatic proof and coordinate geometry proof. Finally, students will model real world objects using geometric formulas for perimeter, area, and volume. Three dimensional objects such as prisms, pyramids, cones, cylinders, and spheres will be used in a variety of models. This course is aligned to the Common Core State Standards for Geometry.

**QUARTERLY TOPICS**

**SUBJECT: Geometry**

**Unit 1: Transformations**

**Theme / Big Ideas:**

1. Transformations
2. Coordinate Geometry
3. Visualization  **GRADE:10th TIMELINE: Semester 1 - Quarter 1**

**Essential Questions for this Unit**

1.How do you transform a figure using precise geometric terminology to specify a sequence of transformations?

2.Which transformations produce congruent images and which produce similar images?

3.How do you recognize congruence and similarity in figures?

| **Standards** | **Content**  | **Objectives** | **Assessment** | **Resources** | **Vocabulary** |
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| **G.G-CO.A.1**. Know precise definitions of angle,circle,perpendicular line,parallel line, and line segment, based on the undefined notions of points, line, distance along a line, and distance around a circular arc. | Points, Lines and PlanesMeasuring SegmentsMeasuring AnglesExploring angle pairsMidpoint and Distance in the Coordinate PlanePartitioning s Line Segment | I can differentiate point, line, & plane.I can explore angle pairs.I can measure and compare segments and angles. | Lesson Check & Practice TestPage 143-146Pearson Geometry Book | Geometry Common Core –by PearsonPP 140-147 | -Parallel lines-Skew lines-Parallel planes-Transversal-Alternate interior angles-Same-side interior angles-Corresponding angles-Alternate exterior angles |
| **G.G-CO.A.2.** Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch | TranslationsRigid MotionComposite of Transformation | I can explain rigid motions.I can visualize translation images and identify their location . | Lesson Check &Practice TestPage 549-551 | Geometry Common Core –by PearsonPP 545-552 | -Transformation-Preimage-Rigid motion-Translation-Composite of transformation |
| **G.G-CO.A.3.**Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself. | Angle of rotationsCenter of rotations | I can identify types of symmetry using the skills in reflections and rotations.I can identify the lines of symmetry of regular polygonsUsing reflections. | Lesson Check & Practice TestPage-568- 569Common core Geometry | Geometry Common Core –by PearsonPP 568-569 | Angle of rotationsCenter of rotation |

| **Standards** | **Content**  | **Student Friendly Objectives** | **Assessment** | **Resources** | **Vocabulary** |
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**SUBJECT: Geometry GRADE: 10th TIMELINE: Semester 1 - Quarter 1**

**Unit 2: Congruent Triangles**

**Theme/Big Ideas for this Unit:**

* Visualization
* Reasoning and Proofs

**Essential Questions for this Unit**

1. How do you identify corresponding parts of congruent triangles?

2. How do you show two triangles are congruent?

3. How can you tell whether a triangle is isosceles or equilateral?

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| **Standards** | **Content**  | **Student Friendly Objectives** | **Assessment** | **Resources** | **Vocabulary** |
| **G.G-CO.B.7.** Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent**G.G-CO.B.8.**Explain how the criteria for triangle congruence(ASA,AAS,SAS, and SSS) follow from the definition of congruence in terms of rigid motions. | Rigid MotionCongruent triangles Corresponding parts of congruent figures are congruentJustify ASA congruencyJustify SAS congruencyJustify SSS congruencyJustify AAS congruencyJustify HL( SSA not valid for congruency) | I can identify congruence transformations.I can prove triangle congruence using isometry.I can prove two triangles congruent using SSS, ASA , AAS and SAS Postulates.I can use triangle congruence and corresponding parts of congruent triangles to prove that pairs of triangles are congruent. | Lesson Check & Practice TestPage-582- 585Common core GeometryLesson Check & Practice TestPages 238-240Common core Geometry | Geometry Common Core –by PearsonPage-578- 589Geometry Common Core –by PearsonPage-234- 248 | -Congruent polygons-Congruence-Theorems-Postulates-Postulates-corresponding parts-corollary-Congruent |

**SUBJECT:Geometry**

**Unit 3: Parallel Lines and Angles**

**Theme/Big Ideas:**

1. Reasoning and Proof
2. Measurement
3. Coordinate Geometry **GRADE:10th TIMELINE: Semester 1 -Quarter 2**

**Essential Questions for this Unit**

1.How do you prove that two lines are parallel?

2.What is the sum of the measures of the angles of a triangle?

3.How do you write an equation of a line in the coordinate plane?

| **Standards** | **Content**  | **Objectives** | **Assessment** | **Resources** | **Vocabulary** |
| --- | --- | --- | --- | --- | --- |
| **G.G-CO.A.1**. Know precise definitions of angle,circle,perpendicular line,parallel line, and line segment, based on the undefined notions of points, line, distance along a line, and distance around a circular arc. | Points, Lines and PlanesMeasuring SegmentsMeasuring AnglesExploring angle pairsMidpoint and Distance in the Coordinate PlanePartitioning s Line Segment | I can differentiate point, line, & plane.I can explore angle pairs.I can measure and compare segments and angles. | Lesson Check & Practice TestPages 144-146Common core Geometry | Geometry Common Core –by PearsonPages 140-155 | Parallel lines-Skew lines-Parallel planes-Transversal-Alternate interior angles-Same-side interior angles-Corresponding angles-Alternate exterior angles |
| **G.G.CO.B.6.** Use geometric definitions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent. | Understand Congruence in terms of rigid motionComposition of Isometries | I can find the distance between two points in the coordinate. PlaneI can find composition of isometries, including glide reflections .I can classify isometries. | Lesson Check & Practice TestPages 573-576 | Geometry Common Core –by PearsonPages 570-577 | Distance FormulaTransversalGlide reflectionIsometry |
| **G.G-CO.C.9.** Prove theorems about lines and angles. *Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment’s endpoints.***G.G-GPE.B.5.**  Prove the slope criteria for parallel line and perpendicular lines and use them to solve geometric problems, including finding the equation of a line parallel or perpendicular to a given line that passes through a given points. | Perpendicular Bisectors and Angle BisectorsProve geometric TheoremsEquations of Lines in the Coordinate PlaneSlopes of parallel and perpendicular Lines | I can model perpendicular bisectors and angle bisectors in real world context.I can use the properties of perpendicular bisectors and angle bisectors in solving distance problems.I can graph and write linear equations.I can relate slope to parallel and perpendicular lines. | Lesson Check & Practice TestPages 296-298Lesson Check & Practice test.Pages 193-195Pages 201-203 | Geometry Common Core –by PearsonPages 292-300Geometry Common Core –by PearsonPages 189-196Pages 197- 204 | BisectorTheoremsEquidistantDistance from a point to a lineSlopeSlope-intercept formPoint-slope form |

**SUBJECT:Geometry**

**Unit 4: Relationships in Triangles GRADE: 10th TIMELINE: Semester 1 - Quarter 2**

**Theme/Big Ideas:**

1. Coordinate Geometry
2. Measurement
3. Reasoning and proof

**Essential Questions for this Unit**

1.How do use coordinate geometry to find relationships within triangles?

2.How do you solve problems that involve measurements of triangles?

3.How do you write indirect proofs?

| **Standards** | **Content**  | **Objectives** | **Assessment** | **Resources** | **Vocabulary** |
| --- | --- | --- | --- | --- | --- |
| **G.G-CO.C.10.** Prove theorems about triangles. Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point. | Investigate Mid-segmentMid-segments of TrianglesMedians and AltitudesInequalities in One TriangleInequalities in Two Triangles | I can model triangles and their mid-segments in real world context.I can apply properties of mid-segments to solve distances. I can explain the properties of medians and altitudes of a triangle.I can model the properties of medians and altitudes in real world context.I can apply the properties of medians and altitude in solving distance measures.I will explain the inequalities in triangles. | Lesson Check & Practice testPages 288-290 | Geometry Common Core –by PearsonPages 285 -291 | Midsegment of a triangle |
| **G.G-CO.C.11.** Prove theorems about parallelograms. *Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.* | Properties of ParallelogramsProving that a Quadrilateral Is A ParallelogramProperties of Rhombuses, Rectangles, and Squares | I can understand the relationships among sides and angles in a parallelogram.I can understand the relationships among the diagonals of parallelograms.I can determine whether a quadrilateral is a parallelogram.I can classify the special types of parallelogram | Lesson Check & Practice testPages 363-366Pages 372-374Pages 379-382Pages 386-388 | Geometry Common Core –by PearsonPages 359-388 | ParallelogramOpposite sidesOpposite AnglesConsecutive AnglesRhombusRectanglesquare |

| **Standards** | **Content**  | **Objectives** | **Assessment** | **Resources** | **Vocabulary** |
| --- | --- | --- | --- | --- | --- |
| **G.G-CO.D.12.** Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). *Copying a segment; copying an angle; bisecting a segment; bisecting an angle;**segment; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.***G.G-CO.D.13.** Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle. | Basic ConstructionsPerimeter, Circumference, and AreaConstructing Parallel Lines and Perpendicular Lines.Slopes of Parallel and Perpendicular LinesIsosceles and Equilateral Triangles Congruence in Right Triangles.Congruence in Overlapping Triangles | I can make formal geometric constructions with a variety of tools and methods (compass and straightedge,string,reflective devised ,paper folding, & dynamic geometric software, etc.)I can construct isosceles and equilateral triangles.I can recognize congruent figures and their corresponding parts. | Lesson Check & Practice testPages 46 - 48Pages 53- 56Lesson Check & Practice testPages 253 -256 | Geometry Common Core –by PearsonPages 43- 56Geometry Common Core –by PearsonPages 250-256 | Straight edgeCompassConstructionPerpendicular bisectorPerimeterAreaSlopesPerpendicular linesParallel LinesLegs of an isosceles triangleBase of an isosceles triangleVertex angleBase angles |

**SUBJECT:Geometry**

**Unit 5:Similarity**

**Theme/Big Ideas:**

1. Similarity
2. Reasoning and proof
3. Visualization  **GRADE:10th TIMELINE: Semester 2 - Quarter 3**

**Essential Questions for this Unit**

1.How do you use proportions to find side lengths in similar polygons?

2.How do you show tow triangles similar?

3.How do you identify corresponding parts of similar triangles?

| **Standards** | **Content**  | **Objectives** | **Assessment** | **Resources** | **Vocabulary** |
| --- | --- | --- | --- | --- | --- |
| **G-SRT.A.1.** Verify experimentally the properties of dilations given by a center and a scale factor:Connections: *ETHS-S1C2-01*;*9-10.WHST.1b*; *9-10.WHST.1e*Dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged.The dilation of a line segment is longer or shorter in the ratio given by the scale factor**G-SRT.A.2.** Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides. | DilationsScale factorSimilarity TransformationsUnderstand similarity in terms of similarity transformations | I can understand/explain dilation images of figures.I can identify similarity transformation and verify properties of similarity.I can set-up proportions between corresponding parts. | Lesson Check & Practice testPages 590 - 592Lesson Check & Practice testPages 597-600 | Geometry Common Core –by PearsonPages 587-593Geometry Common Core –by PearsonPages 594-601 | DilationScale factorRatio & proportionExtended ratioExtremesMeansCross Products PropertySimilarityTransformationSimilar |
| **G-SRT.B.4.** Prove theorems about triangles. Theorems include: an interior line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.**G-SRT.B.5.** Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures. | Triangle-Angle-Bisector TheoremProve theorems involving similarityThe Polygon Angle-Sum TheoremTrapezoids and KitesProve theorems involving similarity | I can use the Side-Splitter Theorem and the Triangle-Angle-Bisector Theorem.I can find the sum of the interior angle measures of a polygon.I can find the sum of the exterior angle measures of a polygon.I can verify and use the properties of trapezoids and kites | Lesson Check & Practice testPages 474-478Lesson Check & Practice testPages 436-438Pages 455-457Pages 464-467 | Geometry Common Core –by PearsonPages 471-480Geometry Common Core –by PearsonPages 432- 470 | TriangleAngle BisectorCorollarySimilar figuresSimilar polygonsExtended proportionScale factorScale drawingScaleGeometric meanIndirect measurement |
| **G-GPE.B.5.**  Prove the slope criteria for parallel line and perpendicular lines and use them to solve geometric problems, including finding the equation of a line parallel or perpendicular to a given line that passes through a given points.**G-GPE.B.6.** Find the point on a directed line segment between two given points that partitions the segment in a given ratio. | Equations of Lines in the Coordinate PlaneSlopes of parallel and perpendicular LinesPartitioning a Line Segment | I can graph and write linear equations.I can relate slope to parallel and perpendicular lines.I can find the distance between two points in the coordinate. plane | Lesson Check & Practice test.Pages 193-195Pages 201-203Lesson Check & Practice test.Page 57 | Geometry Common Core –by PearsonPages 189-196Pages 197- 204Geometry Common Core –by PearsonPages 57-58 | SlopeSlope-intercept formPoint-slope formCoordinateSegmentVerticalHorizontal |

**SUBJECT:Geometry**

**Unit 6: Trigonometry & Right Triangles GRADE:10th TIMELINE: Semester 2 - Quarter 3**

**Theme/Big Ideas:**

1. Measurement
2. Similarity

**Essential Questions for this Unit**

1.How do you find a side length or angle measure in a right triangle?

2.How do trigonometric ratios relate to similar right triangles?

3.How do you know where each of the side lengths goes in the equation?

| **Standards** | **Content**  | **Objectives** | **Assessment** | **Resources** | **Vocabulary** |
| --- | --- | --- | --- | --- | --- |
| **G-SRT.C.6.** Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.  | Students may use applets to explore the range of values of the trigonometric ratios as θ ranges from 0 to 90 degrees.Shape  Description automatically generated with medium confidence

|  |  |
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| *sine of θ = sin θ =* | *cosecant of θ = csc θ =* |
| *cosine of θ = cos θ =* | *secant of θ = sec θ =* |
| *tangent of θ = tan θ =* | *cotangent of θ = cot θ =* |

 | I can understand/explain the definition of the sine, cosine, and tangent ratios.I can model the right triangles in real world context and apply the right triangle trigonometry to solve missing distances and angles. | Lesson Check & Practice test.Page 506  | Geometry Common Core –by PearsonPages 506-507 | SineCosineTangentCosineCotangentSecant |
| **G-SRT.C.7.** Explain and use the relationship between the sine and cosine of complementary angles. | Angles of Elevation and Depression | I can understand the relation between the sine and cosine of the complementary angles in a right triangle | Lesson Check & Practice test.Pages 514-515 | Geometry Common Core –by PearsonPages 514-515 | ElevationDepression |

**SUBJECT:Geometry**

**Unit 7: Circles GRADE:10th TIMELINE: Semester 2 - Quarter 4**

**Theme/Big Ideas:**

1. Reasoning and proof
2. Measurement
3. Coordinate Geometry

**Essential Questions for this Unit :**

1. How can you prove relationships between angles and arcs in a circle?
2. When lines intersects a circle, how do you find the measures of resulting angles, arcs, and segments?
3. How do you find the equation of a circle in a coordinate plane?

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| Standards | Content | Student Friendly Objectives | Assessment | Resources | Vocabulary |
| **G.G-C.A.1**. Prove that all circles are similar.**G.G-C.A.2.** Identify and describe relationships among inscribed angles, radii, and cords. Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.**G.G-C.A.3.** Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle. | TangentsChords and ArcsInscribed AnglesAngle Measures and Segment LengthsInscribed angleIntercepted arcBisectors in TrianglesInscribed angleIntercepted arc | I can prove that all circles are similar.I can use properties of a tangent to a circle.I can find the measure of a inscribed angle.I can find the measure of an angle formed by a tangent and a cord.I can find measures of angles formed by chords, secant, and tangents.I can use properties of a tangent to a circle.I can find the lengths of segments associated with circles.I can determine the point of concurrency of angle bisectors in triangles.I can use the properties of the concurrency of angle bisectors to find missing distance measures.I can find the measure of an inscribed angle.I can find the measure of an anlge formed by a tangent and a chord. | Lesson Check & Practice test.Pages **Examples:** * Given the circle below with radius of 10 and chord length of 12, find the distance from the chord to the center of the circle.

**hs circle*** Find the unknown length in the picture below.

Diagram  Description automatically generatedLesson Check & Practice test.Pages 784- 787 | Geometry Common Core –by PearsonGeometry Common Core –by PearsonPages 762-797Geometry Common Core –by PearsonPages 780-789 | CircleTangentChordArcTangent to a circlePoint of tangencyInscribed angleIntercepted arcSecantChordInscribed angleIntercepted arcInscribed angleIntercepted arc |

| **Content**  | **Standards** | **Objectives** | **Assessment** | **Resources** | **Vocabulary** |
| --- | --- | --- | --- | --- | --- |
| **G.G-C.B.5.** Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector | Circles and ArcsAreas of Circles and Sectors | I can describe how to determine the circumference and the area of a circle.I can describe how to determine the length of an arc and the area of a sector of a circle.I can solve for the length of arc and the area of a sector of the circle. | An 8 ft by 10 ft floating dock is anchored in the middle of a pond. The bow of a canoe is tied to a corner of the dock with a 10-ft rope, as shown in the picture below.1. Sketch the diagram of the region in which the bow of the canoe can travel.
2. What is the area of the region?

A picture containing text  Description automatically generated | Geometry Common Core –by PearsonPages 653-658 | ArcInterceptedRadiusProportionalitysector |

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| **G.G-GPE.A.1.** Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation. | Equation of a circlePythagorean TheoremFinding the center and radius of circle | I can derive the equation of a circle of given center and radius using the Pythagorean Theorem.I can use the completing the square in algebra to find the center and radius of a circle given the equation.I can write the equation of a circle.I can find the center and radius of a circle. | Lesson Check & Practice test.Pages 800 - 803 | Geometry Common Core –by PearsonPages 798-805 | Pythagorean TheoremCenter RadiusStandard form of an equation of a circle |
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**SUBJECT:Geometry GRADE:10th TIMELINE: Semester 2 - Quarter 4**

**Unit 8: Area and Volume**

**Theme /Big Ideas:**

1. Visualization
2. Measurement
3. Similarity

**Essential Questions for this Unit**

1.How can you determine the intersection of a solid and a plane?

2.How do you find the surface area and volume of a solid?

3.How do the surface areas and volumes of similar solids compare?

| **Standards** | **Content**  | **Objectives** | **Assessment** | **Resources** | **Vocabulary** |
| --- | --- | --- | --- | --- | --- |
| **G.G-GMD.A.1.** Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. *Use dissection arguments, Cavalieri’s principle, and informal limit arguments.* | Volume of prismVolume of CylinderCavalier’s Principle | I can find the volume of a prism and the volume of a cylinder. | Lesson Check & Practice test.Pages 721-723 | Geometry Common Core –by PearsonPages 717- 725 | VolumeComposite space FigureCavalieri’s principle is if two solids have the same height and the same cross-sectional area at every level, then they have the same [volume](http://www.daviddarling.info/encyclopedia/V/volume.html) |
| **G.G-GMD.A.3.** Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.**G.G-GMD.B.4.** Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects | Volume of a Pyramid Volume of a cone Surface Area of a sphere Volume of a sphereSpace Figures and Cross SectionsPolyhedron | I can calculate the volume of prism and cylinder.I can find volume of pyramids and cones.I can find surface areas and volume of spheres.I can use scale factors to find the volume of similar solids.I can explain density as it relates to the volume of a container.I can recognize polyhedrons and their parts.I can visualize and sketch cross sections of space figures.I can differentiate solid figures and specify their parts. I can find the surface area of prisms and cylinders.I can find the surface area of Pyramids and Cones. | Lesson Check & Practice test.Pages 729-732Pages 736 -740 Lesson Check & Practice testPages 691-695Pages 696- 698 | Geometry Common Core –by PearsonPages 726- 742Geometry Common Core –by PearsonPages 688- 698 | SphereCenter of sphereDiameter of a sphereCircumference of a sphere Great circleHemispherePolyhedronFaceEdgeVertexCross sectionperspective |
| **G.G-MG.A.1.** Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder). | Solid figuresSurface Area | I can differentiate solid figures and specify their parts. I can find the surface area of prisms and cylinders.I can find the surface area of Pyramids and Cones. | Lesson Check & Practice test.Pages 703-705Pages 712 -715 | Geometry Common Core –by PearsonPages 699-716 | PrismRight prismOblique prismCylinderBase Height AltitudeRight cylinderOblique cylinder |
| **G.G-MG.A.2** Apply concepts of density based on area and volume in modeling situations utilizing real-world context. | Similar solidsDensity of solids | I can compare and find the areas and volumes of similar solids. | Lesson Check & Practice test.Pages 745-749 | Geometry Common Core –by PearsonPages 741-749 | Similar solidsDensityScale Factor |
| **G.G-MG.A.3** Apply geometric methods to solve design problems utilizing real-world context**.** |  Designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).\* | I can apply geometric methods to solve design problems like minimizing cost.I can complete a problem set of challenging application and proof based circle problems. | Circles Assessment(Online)Students will complete two Do Now questions that review key concepts in the circles unit before starting the problem set.  If you have time, you can review other student questions from previous | Online ( Not found in the textbook)Search G.G.MG.A.3Online. | Modeling with GeometryStructure Cost |

| **Standards** | **Contents** | **Objectives** | **Assessment** | **Resources** | **Vocabulary** |
| --- | --- | --- | --- | --- | --- |
| **G-GPE.B.7**. Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula. | Midpoint and Distance in the Coordinate Plane. | I can use coordinates to calculate perimeters of polygons and solve the areas of triangles and rectangles. | Lesson Check & Practice test.Pages  | Geometry Common Core –by Pearson | MidpointDistanceCoordinate Plane |

**SUBJECT: Geometry**

**Unit 9: Probability GRADE: 10th TIMELINE: Semester 2-Quarter 4**

**Theme/Big ideas:**

1. **Probability**
2. **Data Presentation**

**Essential Questions for this Unit**

1.What is the difference between experimental probability and theoretical probability?

2.What is frequency table?

3.What does it mean for an event to be random?

| **Standards** | **Content**  | **Objectives** | **Assessment** | **Resources** | **Vocabulary** |
| --- | --- | --- | --- | --- | --- |
| **G.G-S-CP.A.**1 Describe event as subsets of a sample space using characteristics of the outcomes, or as unions, intersections, or complements of other events. | Experimental ProbabilityTheoretical Probability | I can calculate experimental and theoretical probability. | Lesson Check &Practice TestPages 827-829 | Geometry Common Core –by PearsonPages 822-829 | OutcomeEventSample spaceProbabilityExperimental probabilityTheoretical probabilityComplement of an event |
| **G.S-CP.A.4** Construct and interpret two-way frequency tables of data when two categories are associated with each other being classified. | Probability DistributionsFrequency Tables | I can make and use frequency tables and probability distributions. | Lesson Check & Practice testPages 832-835 | Geometry Common Core –by PearsonPages 830 -835 | Frequency tablesRelative frequencyProbability distribution |
| **G.S-CP.B.9**  Use permutations and combinations to compute probabilities of compound events and solve problems. | PermutationsCombinations | I can use permutations and combinations to solve problems. | Lesson Check & Practice testPages 840-842 | Geometry Common Core –by PearsonPages 836- 843 | Fundamental counting principlePermutationN factorialcombination |