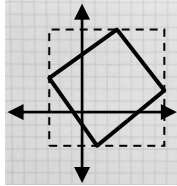
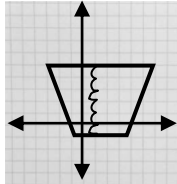


Flashcards List for Regents Geometry Review

How to make flashcards:

1. On the front side, write the main topic. Note: you may want to break up the topic into multiple cards.
2. On the back side, write the formula, draw any pictures, and/or explain the steps you need to take. Some cards may need more than one example, drawing, or note.

Example (you could separate this into two cards):

Finding Area of Figures in the Coordinate Plane	<ol style="list-style-type: none">1. Plot points/graph equations.2. Identify simple shape(s).3. Write an equation "Area_{figure} = " using addition and/or subtraction.<ol style="list-style-type: none">a. Horizontal/Vertical Dimensions: Count bases/heights/diagonals. Plug into formula(s).b. Non-Horizontal/Vertical: Draw a box around the figure. Count dimensions to find the area of the box and each triangle.4. Evaluate the equation.5. Check my answer. <div style="display: flex; justify-content: space-around; align-items: center;"></div>
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Note: the better your flash cards are, the more helpful they will be so put the time into making thorough cards and good drawings!

How to use flashcards:

1. Flip through your flashcards, reviewing the front & back, for about 1-2 minutes per.
2. Shuffle the flashcards. Go through them, setting aside any cards which you do not quickly recall.
3. Revisit the cards you set aside for 1 minute per.
4. Retest yourself on the cards you didn't get the first time.
5. Occasionally work your cards in reverse – looking at the back side and responding with the front side. Have a friend or family member quiz you with them as well.

Unit 1 – Foundations of Geometry

- | | | |
|--|---|---|
| 1. Undefined Terms & Figures (Definition; How to Name; Draw): <ol style="list-style-type: none">a. Planeb. Pointc. Lined. Segment | 3. Segment Addition Postulate | 6. Constructions: <ol style="list-style-type: none">a. Congruent Segmentb. Perpendicular Bisector of Segmentc. Congruent Angle (copy)d. Angle Bisector |
| 2. Intersection of: <ol style="list-style-type: none">a. 2 Planesb. Plane & Linec. 2 Lines | 4. Angle Addition Postulate | 7. Perimeter |
| | 5. Angle Pairs (Defn; Draw): <ol style="list-style-type: none">a. Adjacent Anglesb. Linear Pairc. Complementary Anglesd. Supplementary Anglese. Vertical Angles | 8. Formulas: <ol style="list-style-type: none">a. Area (also in 9)b. Distancec. Midpointd. Slope |

Unit 2 – Geometric Reasoning

- Vocabulary:
 - Conjecture
 - Counterexample
 - Definition
- Definitions (& Common Reasons in Proofs):
 - Angle Bisector
 - Segment Bisector
 - Midpoint
 - Congruent Angles
 - Congruent Segments
 - Complementary Angles
 - Supplementary Angles
 - Right Angle
- Conditional Statements:
 - Conditional
 - Converse
 - Inverse
 - Contrapositive
 - Bi-Conditional
- Conjunctions & Truth Value
- Disjunctions & Truth Value
- Properties:
 - Addition Property of Equality
 - Subtraction Property of Equality
 - Multiplication Property of Equality
 - Division Property of Equality
 - Simplification
 - Substitution
 - Reflexive Property
 - Symmetric Property
 - Transitive Property
 - $= \text{measure} \leftrightarrow \cong \text{figures}$
- Theorems:
 - Linear Pair Theorem
 - Congruent Supplements
 - Congruent Complements
 - Right Angle Congruence (All right angles are \cong)
 - Vertical Angles Theorem
 - $\cong \text{Supp } \angle\text{'s} \rightarrow \text{right } \angle\text{'s}$
- Algebraic Proofs
- Coordinate Proof Steps

Unit 3 - \parallel & \perp Lines

- Angles formed by lines cut by a transversal:
 - Alternate Interior Angles
 - Corresponding Angles
 - Alternate Exterior Angles
 - Same Side Interior Angles
- Line Relationships:
 - Slope Formula
 - Parallel Lines Slope
 - Perpendicular Lines
 - Slope Product
 - Slope Values
 - Opposite Reciprocals
 - Horizontal & Vertical
- Coincident Lines
- 2 Lines \perp to Same Line are \parallel
- A Line \perp to 1 of 2 \parallel Lines is \perp to other
- Linear Pair of $\cong \angle\text{'s} \rightarrow \perp$ Lines
- Constructions:
 - Parallel Line through a Point
 - Perpendicular Line through a Point
- Linear Equations:
 - Slope-Intercept Form
 - Point-Slope Form
 - Vertical Line
 - Horizontal Line
- Determining whether two lines are coincident, \parallel , \perp , or intersecting

Unit 4 – Triangle Congruence

- Triangle Classification
 - Sides:
 - Isosceles
 - Scalene
 - Equilateral
 - Angles:
 - Equiangular
 - Obtuse
 - Acute
 - Right
- Triangle Sum Theorem
- Complementary Acute Angles of a Right Triangle
- Exterior Angle Theorem
- Third Angles Theorem
- Triangle Congruency Theorems:
 - $SSS \cong$
 - $SAS \cong$
 - $ASA \cong$
 - $AAS \cong$
 - $RHL \cong$
- CPCTC
- Isosceles \triangle Theorems (sides $\leftrightarrow \angle\text{'s}$)
- Equilateral \triangle Theorems (equilateral \leftrightarrow equiangular)
- Constructions:
 - Isosceles Triangle
 - Equilateral Triangle
- Coordinate Geometry Proofs

Unit 5 – Properties and Attributes of Triangles

- Points of Concurrency (include intersection of _____, resulting relationship(s), how to find in coordinate plane, locations):
 - Circumcenter
 - Incenter
 - Orthocenter
 - Centroid
- Vocabulary:
 - Inscribed Circle
 - Circumscribed Circle
 - Median
 - Altitude
- Midsegment of a Triangle
- Midsegment Triangle
- Triangle Inequality Theorems:
 - Side Relationships
 - Side to Angle Relationships
- Exterior Angle Inequality
- Steps for Indirect Proofs

Unit 6 – Polygons & Quadrilaterals

- Polygon Angles
 - Interior Angle Sum
 - Exterior Angle Sum
 - Regular \rightarrow Each Interior \nless
 - Regular \rightarrow Each Exterior \nless
- Vocabulary
 - Diagonal
 - Polygon
 - Consecutive Angles
 - Consecutive Sides
- Parallelograms
 - Definition vs. Properties
 - Ways to Prove
 - Special Cases – Properties of/Prove
 - Rectangle
 - Rhombus
 - Square
- Trapezoid
 - Definition vs. Properties
 - Isosceles Trapezoid
 - Ways to Prove
- Coordinate Proofs w/Quadrilaterals

Unit 7 – Similarity

- Extended Ratio
- Definition of \sim Polygons
- Similarity Statement
- Similarity Ratio
- Δ Similarity Theorems
- Proportional Sides
- Equivalent Proportions
- Mean vs. Extreme
- Cross-Products Property
- Hints for using SSS \sim and SAS \sim in 2-column proofs
- Reflexive Angle
- Example “Since-then” using SSS \sim or SAS \sim in a coordinate proof
- Dilation
- Scale Factor
- Perimeter Ratio of \sim Polygons
- Area Ratio of \sim Polygons

Unit 8 – Right Triangles

- Exact Value
- Pythagorean Theorem
- Pythagorean Triples
- 45-45-90 Right Triangles
- 30-60-90 Right Triangles
- Trigonometric Ratios: SohCahToa
- Geometric Means
- Skills
 - Solving Quadratic Equations by
 - Factoring
 - Square Roots
 - Simplifying Radicals
 - Rationalizing Denominators
 - Multiply & Square Radicals
 - Construct Right Δ 's:
 - Isosceles
 - Scalene

Unit 9 – Area, Perimeter & Geometric Probability

- Area Formulas
 - Triangle
 - Parallelogram
 - Trapezoid
 - Rhombus/Kite
 - Polygon
 - Circle (CARD)
- Concepts
 - Geometric Probability
 - Composite Figure Area
 - Coordinate Plane Figures:
 - Area
 - Perimeter
- Vocabulary
 - Apothem
 - Central Angle
- Effects of Changing Dimensions
 - Effect on Area
 - Effect on Perimeter

Unit 10 – Solid Geometry

1. Formulas
 - a. Prism
 - i. Lateral Area
 - ii. Surface Area
 - iii. Volume
 - b. Cylinder
 - i. Lateral Area
 - ii. Surface Area
 - iii. Volume
 - c. Pyramid
 - i. Lateral Area
 - ii. Surface Area
 - iii. Volume
 - d. Cone
 - i. Lateral Area
 - ii. Surface Area
 - iii. Volume
 - e. Sphere
 - i. Surface Area
 - ii. Volume
2. Vocabulary
 - a. Face
 - b. Edge
 - c. Net
 - d. Regular
 - e. Right vs. Oblique
 - f. Lateral Area
 - g. Surface Area
 - h. Volume
 - i. Great Circle
 - j. Axis
 - k. Slant Height

Unit 11 – Circles

1. Vocabulary:
 - a. Chord
 - b. Secant
 - c. Tangent
 - d. Arc
 - e. Adjacent Arcs
 - f. Subtend/Intercept
 - g. Semicircle
 - h. Point of Tangency
 - i. Concentric Circles
 - j. Minor Arc/Major Arc
2. Angle-Arc Relationships:
 - a. Central Angle
 - b. Interior Angle
 - c. Inscribed Angle
 - d. Exterior Angle
3. Segment Relationships:
 - a. Tangent-Tangent Congruency
 - b. Secant-Tangent Product
 - c. Secant-Secant Product
 - d. Chord-Chord Product
4. Inscribed Angle Properties:
 - a. Semicircle \rightarrow Right \sphericalangle
 - b. Inscribed Quadrilateral \rightarrow Opposite \sphericalangle 's suppl
 - c. Intercept same or \cong arcs \rightarrow angles \cong
5. Other Relationships:
 - a. Radius \perp Tangent
 - b. \cong Central \sphericalangle 's \leftrightarrow \cong Arcs \leftrightarrow \cong Chords
 - c. Arc Addition
 - d. Internally/Externally Common Tangent Lines
 - e. Internally/Externally Tangent Circles
 - f. Congruent Circles

Unit 12 – Transformational Geometry

1. Reflection - Ex: $r_{y=x}(x, y) = (y, x)$
2. Translation $T_{a,b}(x, y) = (x+a, y+b)$
3. Dilation $D_k(x, y) = (kx, ky)$
4. Rotation - Ex: $R_{90^\circ}(x, y) = (-y, x)$
5. Composition (2^{nd} o 1^{st})
6. Variant vs. Invariant:
 - a. Isometry (Distance)
 - i. Direct
 - ii. Indirect
 - b. Orientation
 - c. Parallelism
 - d. Perpendicularity

Locus Unit

- Definition of Locus
- Five Basic Loci:
 1. From a point
 2. From two points
 3. From one line
 4. From two \parallel lines
 5. From two intersecting lines (or an angle)
- Compound Loci