PAREF Southcrest

GEOMETRY 9
TOPIC OUTLINE

## FIRST QUARTER

Introduction to Geometry
$\star$ Points, lines, planes and angles and its properties

- Parts of lines
- Types of Angles and Angle Pairs
$\star$ Theorems related to the characteristics of points, lines, planes and angles
Conditional Statements
$\star$ Converse, inverse, and contrapositive statements
$\star$ Biconditional statements
Writing a Proof
$\star$ Ways of writing a proof
$\star$ Properties from Algebra
$\star$ Proving from these properties
Lines, planes and transversals
$\star$ Properties of parallel lines
$\star$ Special pairs of angles and its measurements
$\star$ Overview on parallel planes
Proving lines parallel
Polygons and its characteristics
Triangles and its types

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## SECOND QUARTER

Medians, altitudes, angle bisectors and perpendicular bisectors
Proving
Correspondence and Congruence
Intro on Proving Triangles congruent
Isosceles Triangle theorem and its converse
Exterior Angle Theorem
Properties of inequalities
Inequalities in one triangle
$\star$ Triangle Inequality Theorem
Inequalities in two triangles

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| THIRD QUARTER |
| :---: |
| Quadrilaterals |
| Special Parallelograms |
| $\star$ Square |
| $\star$ Rectangle |
| $\star$ Rhombus |
| Trapezoids and Kites |
| Review on Ratio and Proportion |
| Properties of Proportions |
| Intro to Similarity |
| Similar Polygons and Triangles |
| $\star$ Theorems |
| Proving similar triangles |
| Intro to Right Triangles |
| Right Triangles |
| Pythagorean Theorem and its converse |
| Applications of the theorem |
| Special Right Triangles |
| Applications |
| Trigonometric Ratios |

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## FOURTH QUARTER

Angles of elevation and depression
$\star$ Applications
Continuation on the applications of Right Triangles, Special Right Triangles and Trigonometric Ratios

Circles, segments, and congruence
Properties of Tangents
Arcs, chords, and central angles
Tangents, secants, and angles
The Power Theorems
Wrapping Up

