

TITLE: 9TH GRADE MATH NOTES

MAIN NOTES:

- INTRODUCTION TO ALGEBRA:

- ALGEBRAIC EXPRESSIONS

- DEFINITION: AN ALGEBRAIC EXPRESSION IS A MATHEMATICAL PHRASE CONTAINING NUMBERS, VARIABLES, AND OPERATIONS SUCH AS ADDITION, SUBTRACTION, MULTIPLICATION, AND DIVISION.

- EXAMPLES: $3x + 5$, $2y - 7$, $4a^2 - 2ab + 3b^2$

- SOLVING EQUATIONS

- BASIC EQUATIONS: ONE-STEP EQUATIONS, TWO-STEP EQUATIONS

- LINEAR EQUATIONS: EQUATIONS INVOLVING VARIABLES RAISED TO THE POWER OF 1

- QUADRATIC EQUATIONS: EQUATIONS INVOLVING VARIABLES RAISED TO THE POWER OF 2

- GEOMETRY:

- PROPERTIES OF SHAPES

- TRIANGLE: DEFINITIONS AND PROPERTIES OF EQUILATERAL, ISOSCELES, AND SCALENE TRIANGLES

- QUADRILATERALS: DEFINITIONS AND PROPERTIES OF SQUARES, RECTANGLES, PARALLELOGRAMS, TRAPEZOIDS

- CIRCLE: DEFINITIONS AND PROPERTIES OF RADIUS, DIAMETER, CIRCUMFERENCE, AND AREA

- PYTHAGOREAN THEOREM

- DEFINITION: IN A RIGHT-ANGLED TRIANGLE, THE SQUARE OF THE LENGTH OF THE HYPOTENUSE IS EQUAL TO THE SUM OF THE SQUARES OF THE LENGTHS OF THE OTHER TWO SIDES.

- FORMULA: $a^2 + b^2 = c^2$

- STATISTICS AND PROBABILITY:

- DATA ANALYSIS

- MEAN, MEDIAN, MODE

- RANGE AND INTERQUARTILE RANGE

- PROBABILITY

- DEFINITIONS: OUTCOMES, EVENTS, SAMPLE SPACE

- PROBABILITY OF EVENTS: CALCULATING THE PROBABILITY OF SINGLE AND COMPOUND EVENTS

- FUNCTIONS AND GRAPHS: