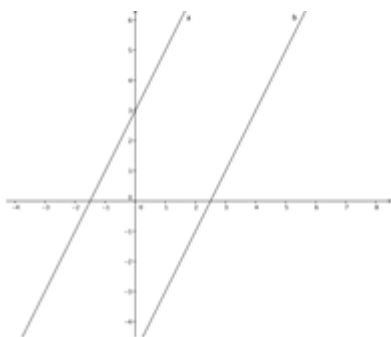


PAP Algebra 9th grade
Coordinator: Emma Encarnación
Teacher: Livia Gourilliova
Principal: Ana María Martijena



Contents:

1. Inequalities with absolute value.
2. Composite Inequalities: conjunction and intersection, disjunction and union.
3. Solve problems using inequalities.
4. Concept of ordered pair and binary relationship. Domain and range of a relationship.
5. Concept of function, notation and evaluate functions. Recognizing functions given by its graph or ordered pairs, the vertical line test.
6. Coordinates in the Cartesian plane.
7. Lines parallel to the axes, concept of slope, point-slope equation, different equations of a line, parallel and perpendicular lines.
8. Review (algebraic expressions, algebraic expressions' numerical value, reducing like terms, grouping symbols)
9. Concept of polynomials, and classification of polynomials. Opposite polynomial.
10. Review of operations with polynomials: Addition, subtraction and multiplication.
11. Long Division
12. Synthetic Division.
13. Binomial squared and cubed.



GeoGebra

Students will be able to:

Solve open sentences involving compound inequalities and absolute value.

Find the domain and range of a relation.

Identify if a relation is a function or not.

Know how to use the vertical line test.

Evaluate functional values.

Translate among verbal descriptions, graphic, tabular, and algebraic representations of mathematical situations.

Graph linear equations and show they have constant rates of change.

Determine the slope, x-intercept and y-intercept of a line given its graph, its equation or two points on the line.

Students will explore several parallel and perpendicular lines. Then, they make their conclusions about functions and their slopes. Students may share their finding about the effective use of **GeoGebra**. Students will write and upload on **Moodle** their Lab Reports about the activity with **GeoGebra**.

Add, subtract and multiply polynomials.

Divide polynomials by monomials.

Divide polynomials by polynomials.

$$\frac{|4m+1|}{7} \leq 1 \quad \text{Solution: } [-2, 1\frac{1}{2}]$$

