## Algebra I

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Textbook: Pearson Algebra 12015
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Description of Course: The language of Algebra will be introduced and its properties studied. The techniques used to solve equations and inequalities will be developed in great detail and real-life applications of these concepts will be explored.

## SPECIFIED COURSE OBJECTIVES

A. Students will:

1. Translate verbal expressions into mathematical expressions.
2. Solve problems by looking for a pattern.
3. Use mathematical properties to evaluate expressions.
4. Solve open sentences.
5. Use and interpret stem-and-leaf plots, tables, graphs and functions.
B. Students will:
6. Display and interpret statistical data on line plots.
7. Add, subtract, multiply, and divide rational numbers.
8. Find square roots.
9. Write equations and formulas.
C. Students will:
10. Solve equations using one or more operations.
11. Solve problems that can be represented by equations.
12. Work backward to solve problems.
13. Define and study angles of triangles.
14. Find measures of central tendency.
D. Students will:
15. Solve proportions.
16. Find unknown measures of the sides of two similar triangles.
17. Use trigonometric ratios to solve right triangles.
18. Solve percent problems.
19. Find the probability and odds of simple events.
20. Solve problems involving direct and inverse variation.
E. Students will:
21. Graph ordered pairs, relations and equations.
22. Solve problems by making a table.
23. Identify the domain, range, and inverse of a relation.
24. Determine if a relation is a function.
25. Write an equation to represent a relation.
F. Students will:
26. Find the slope of a line, given the coordinates of the two points.
27. Write linear equations in point-slope, standard, and slope-intercept forms.
28. Solve problems by using models.
29. Graph linear equations.
30. Use slope to determine if two lines are parallel or perpendicular.
G. Students will:
31. Solve inequalities.
32. Graph solutions of inequalities.
33. Graph solutions of open sentences that involve absolute values.
34. Solve problems by drawing a diagram.
H. Students will:
35. Graph systems of equations.
36. Solve systems of equations by various methods.
37. Organize data to solve problems.
38. Solve systems of inequalities by graphing.
I. Students will:
39. Solve problems by looking for a pattern.
40. Multiply and divide monomials.
41. Express numbers in scientific notation.
42. Add, subtract, and multiply polynomials.
J. Students will:
43. Find the prime factorization of integers.
44. Find the greatest common factors of sets of monomials.
45. Factor polynomials.
46. Solve problems by using trial-and-error methods.
47. Use the zero product property to solve equations.
K. Students will:
48. Find the equation of the axis of symmetry and the coordinates of the vertex of a parabola.
49. Graph quadratic and exponential functions.
50. Use estimation to find roots of quadratic equations by graphing.
51. Solve problems by looking for and using a pattern.
52. Solve problems involving growth and decay.
L. Students will:
53. Simplify rational expressions.
54. Add, subtract, multiply and divide rational expressions.
55. Divide polynomials.
56. Solve rational equations.
M. Students will:
57. Use the Pythagorean Theorem to solve problems.
58. Simplify radical expressions.
59. Solve problems involving radical equations.
60. Solve quadratic equations by completing the square.

## Grading of Course:

Quarter Grade:
At least $50 \%$ - Daily Work - Book work on paper \& Math XL. Completion grade for daily work complete on paper, grade Math XL. Daily work will be accepted late with a $10 \%$ deduction for each day it is late.

Remaining portion - Test Grade - A chapter test will be taken at the end of each chapter.
Semester Grade:
42\% Quarter 1
42\% Quarter 2
16\% Semester Final

Rules/Guidelines of the class:
Students will have respect for the classroom, its property, their fellow students and the teacher. Pop or food is not allowed in the classroom.

