

## Joshua Christian High School Course Description

Subject: Algebra I

Grade Nine

### I. Course Description:

The study of Algebra covering concepts from the solving of basic equations to the solving of quadratic equations. The class will cover important mathematical terms as well as learn procedures to solve problems, graph equations, etc.

### II. Instructional Material

A. Algebra I, Switched on School House, Alpha Omega Publications, Inc., Chandler, Az.

### III. Course goals and Objectives

#### A. Goals

1. Believe that the Word of God is the standard and foundation for the truth. That what is being taught will not contradict that which is written in the Bible.
2. Student will develop reasoning skills through the curriculum. Go beyond the typical recall questions like true and false, multiple choice, and fill in the blank. The curriculum targets memory and higher order skills.
3. Student must master the content and skill of lessons before progressing to the next lesson. Thus will be able to meet the college-level entrance requirements.

#### B. Objectives

1. Student must master the content and skill of lessons before progressing to the next lesson.

Thus will be able to meet the college-level entrance requirements.

#### IV. Course Outline

##### A. Two Semesters

1. Deductive thinking
2. Multiplication properties
3. Products
4. Exponents
5. Evaluating expressions
6. Number skills
7. Fractions and zero
8. Percent
9. The distributive property
10. Variables
11. Simplifying expressions
12. Signed numbers
13. Sentences and Formulas
14. Absolute value
15. Sentences and Variables
16. Formulas
17. Verbal sentences
18. Solving equations: addition property
19. Solving equations: multiplication property
20. Multi-step equations
21. Use of parenthesis
22. Literal equations
23. Solving inequalities
24. Addition and multiplication properties
25. Sentences with absolute value
26. Problem analysis and solution
27. Solving verbal problems
28. Using more than one unknown
29. Geometry problems
30. Problems involving money
31. Medium verbal problems
32. Lever problems
33. Integer problems

34. Challenging verbal problems
35. Polynomials
36. Addition
37. Sums of polynomials
38. Subtraction
39. Differences of Polynomials
40. Grouping symbols
41. Multiplication
42. Products of polynomials by monomials
43. Division
44. Division: monomials
45. Quotients of polynomials
46. Factors
47. Literal terms
48. Foil and binomial factors
49. Finding binomial factors
50. Binomials
51. Finding complete factorizations
52. Four term polynomials
53. Operations
54. Adding and subtracting fractions
55. Least common denominators
56. Multiplying and dividing fractions
57. Simplifying complex fractions
58. Open sentences
59. Literal equations
60. Solving inequalities
61. Rewriting formulas
62. Word problems
63. Quotient remainder
64. Real numbers
65. Graphs and order
66. Properties
67. Irrational numbers
68. Operations and irrational roots
69. Simplify radicals
70. Quotient property
71. Combining radicals

72. Multiplying radicals
73. Dividing radicals
74. Equations
75. Radical equations
76. Literal equations
77. Radical and exponents
78. Graphing techniques
79. Writing equations of lines
80. Given the graph
81. Graphical solutions
82. Graphs
83. Inequalities
84. Algebraic solutions
85. Substitution method
86. Determinants
87. Word problems
88. Quadratic equations
89. Methods of solving quadratic equations
90. Quadratic formula
91. Verbal problems
92. Review

- V. Teaching Method
  - A. Computer program (CD rom)
  - B. Audio visual multimedia program
  - C. Supplemental curriculum
  - D. Verbal questioning

- VI. Evaluation:
  - A. Components
    1. Daily homework
    2. Unit tests
    3. Final exams

- VII. Grading Scale:
  - 100-90=A
  - 89-80=B
  - 79-70=C

69-60=D  
59 & below=F