

**BEMIDJI AREA SCHOOLS**  
Outcomes in Mathematics – College Algebra

**The student will:**

1. Solve linear equations and inequalities.
2. Perform arithmetic operations with complex numbers.
3. Graph and solve problems dealing with quadratic equations.
4. Understand the concepts of graphing in the Cartesian coordinate system.
5. Understand and apply connections between the characteristics of a function and its graph.
6. Recognize the affect of various transformations on functions.
7. Add, subtract, multiply, divide, and compose functions.
8. Find the inverses of functions.
9. Divide polynomials.
10. Know that a polynomial of degree  $n$  has  $n$  complex roots and understand the connection between the roots of a polynomial and its factors.
11. Demonstrate knowledge of rational functions (graphs and characteristics).
12. Solve problems involving direct and indirect variation.
13. Solve problems involving exponential and logarithmic functions.
14. Understand the graphs and equations of conic sections.
15. solve systems of equations in two and three variables.
16. Solve problems involving linear inequalities.
17. Understand concepts and terminology involving sequences and series.
18. Solve problems involving arithmetic and geometric series.
19. Understand probability problems that include permutations and combinations.