

Learning Outcomes - Math 096

Upon successful completion of Math 096, a student should be able to:

1. Use set operations (reunion, intersection, complement) and know their properties.
2. Add, subtract, multiply and divide fractions and decimals.
3. Convert a decimal to a fraction and a fraction to a decimal.
4. Add, subtract, multiply and divide real numbers (signed numbers).
5. Simplify a numerical expression using the order of operations.
6. Simplify algebraic expressions by removing parentheses and combining like terms.
7. Compare mathematical quantities using inequality notation.
8. Simplify algebraic expressions.
9. Simplify complex fractions.
10. Identify common factors and factor quadratic trinomials of the form $x^2 + bx + c$.
11. Factor expressions with more than one factoring step and solve equations.
12. Plot ordered pairs on a rectangular coordinate system
13. Write the equation of a line from data, and graph a line from an equation.
14. Compute the slope of a line, given two ordered pairs.
15. Identify parallel and perpendicular lines.
16. Calculate the length of a line segment.
17. Solve linear equations, set up and solve application problems using linear equations.
18. Interpret and solve linear inequalities.
19. Solve simple equations and inequalities involving absolute values.
20. Solve linear systems in two variables using algebraic methods.
21. Set up and solve application problems using linear systems.
22. Solve quadratic equations by factoring, completing the square and the quadratic formula.
23. Determine the number of solutions to a quadratic equation using the discriminant.
24. Set up and solve quadratic application problems.
25. Add, subtract, multiply, and divide polynomials by monomials.
26. Divide and factor polynomials.
27. Add, subtract, multiply and divide basic rational expressions (algebraic fractions).
28. Solve rational equations.
29. Set up and solve application problems using inverse variation, direct variation and proportions.

30. Add, subtract and multiply radical expressions.
31. Simplify radical expressions and solve basic radical equations.
32. Convert from radical notation to rational exponent notation and from exponent notation to radical notation.
33. Simplify exponent expressions using the laws of exponents.
34. Solve basic exponential equations.