gina wilson all things algebra polynomial functions

gina wilson all things algebra polynomial functions is a key topic that encompasses the understanding and application of polynomial functions in algebra. This article delves into the essential concepts of polynomial functions as presented by Gina Wilson, a prominent educator in the field of mathematics. We will explore the definition of polynomial functions, their characteristics, operations involving polynomial functions, and methods for graphing them. Additionally, we will discuss real-world applications and provide resources for further practice. By the end of this article, readers will have a comprehensive understanding of polynomial functions and their significance in algebra.

Introduction to Polynomial Functions

Polynomial functions are mathematical expressions that involve variables raised to whole number powers. They can be represented in the general form of $f(x) = a_nx^n + a_{n-1}x^{n-1} + ... + a_1x + a_0$, where each a represents a coefficient and n is a non-negative integer indicating the degree of the polynomial. The degree of a polynomial is one of its most significant characteristics, as it influences the function's behavior and the number of roots it may have.

Understanding polynomial functions is crucial for students as they form the foundation for many concepts in algebra and higher mathematics. Gina Wilson, through her educational resources, emphasizes the importance of mastering polynomial functions to excel in algebraic studies. This section will provide an overview of polynomial functions, including their definition, types, and standard form.

Definition of Polynomial Functions

A polynomial function is defined as a function that consists of variables raised to non-negative integer powers multiplied by coefficients. The simplest form of a polynomial function is a constant function, where the degree is zero. As the degree increases, the complexity of the polynomial and its graph also increases. Polynomial functions can be classified based on their degrees:

- Constant Polynomial: Degree 0 (e.g., $f(x) = 5$)
- Linear Polynomial: Degree 1 (e.g., $f(x) = 2x + 3$)
- Quadratic Polynomial: Degree 2 (e.g., $f(x) = x^2 + 4x + 4$)
- Cubic Polynomial: Degree 3 (e.g., $f(x) = x^3 - x + 1$)
- Higher-Degree Polynomials: Degree 4 and above (e.g., $f(x) = x^4 + 2x^3 - 3x^2 + x - 5$)

Types of Polynomial Functions

Polynomial functions can be categorized based on their degree and the number of terms they contain:

- Monomial: A polynomial with one term (e.g., $3x^2$)
- Binomial: A polynomial with two terms (e.g., $x^2 - 4$)
- Trinomial: A polynomial with three terms (e.g., $x^2 + 3x + 2$)

Characteristics of Polynomial Functions

The characteristics of polynomial functions are vital for understanding their behavior and how they interact with other mathematical concepts. Key characteristics include:

Degree and Leading Coefficient

The degree of a polynomial function determines its end behavior and the maximum number of roots. The leading coefficient, which is the coefficient of the term with the highest degree, influences whether the polynomial opens upwards or downwards. For example:

- Even Degree: If the leading coefficient is positive, the ends of the graph rise; if negative, they fall.
- Odd Degree: If the leading coefficient is positive, the left end falls and the right end rises; if negative, the opposite occurs.

Roots and Zeros

Roots, or zeros, of a polynomial function are the values of x where $f(x) = 0$. The fundamental theorem of algebra states that a polynomial of degree n has exactly n roots, considering multiplicities and complex roots. This characteristic is crucial for solving polynomial equations and understanding their graphs.

Operations with Polynomial Functions

Operations involving polynomial functions include addition, subtraction, multiplication, and division. Mastering these operations is essential for manipulating polynomial expressions and solving equations.

Addition and Subtraction

To add or subtract polynomial functions, combine like terms. This involves aligning the terms with the same degree and adding or subtracting their coefficients. For example:

- If $f(x) = 2x^2 + 3x + 1$ and $g(x) = x^2 - 2x + 4$, then:
- $f(x) + g(x) = (2x^2 + x^2) + (3x - 2x) + (1 + 4) = 3x^2 + x + 5$

Multiplication

Multiplying polynomials requires the distributive property. Each term in the first polynomial must be multiplied by each term in the second polynomial. For example:

- For $f(x) = (x + 1)$ and $g(x) = (x + 2)$:
- $f(x) g(x) = x^2 + 2x + x + 2 = x^2 + 3x + 2$

Division

Polynomial long division is similar to numerical long division. It is used to divide one polynomial by another, resulting in a quotient and a remainder. This technique is especially useful when simplifying rational functions.

Graphing Polynomial Functions

Graphing polynomial functions involves plotting points and understanding the shape of the graph based on the degree and leading coefficient. The following steps are essential for graphing polynomial functions:

Identifying Key Features

Before graphing, identify the following key features:

- Degree of the polynomial
- Leading coefficient
- Roots and x-intercepts
- Y-intercept
- End behavior

Using Graphing Techniques

To plot the graph, follow these techniques:

- Find the roots by solving $f(x) = 0$.
- Calculate the y-intercept by evaluating $f(0)$.
- Use the identified features to sketch the graph, ensuring to reflect the end behavior based on the degree and leading coefficient.

Applications of Polynomial Functions

Polynomial functions have numerous applications in real-world scenarios, including:

- Modeling physical phenomena such as projectile motion.
- Economics, for calculating revenue and profit functions.
- Engineering, in analyzing curves and structural loads.
- Computer graphics, for rendering curves and shapes.

Resources for Further Study

For those seeking to deepen their understanding of polynomial functions, consider exploring the following resources:

- Gina Wilson's All Things Algebra resources and worksheets.
- Online math platforms such as Khan Academy or Coursera.
- Mathematics textbooks that cover algebra and polynomial functions extensively.
- Math tutoring services for personalized assistance.

Conclusion

Understanding polynomial functions is essential for mastering algebra and advancing in mathematics. Through Gina Wilson's All Things Algebra resources, students can gain valuable insights into the characteristics, operations, and applications of polynomial functions. By familiarizing themselves with these concepts, learners can enhance their problem-solving skills and apply their knowledge to real-world scenarios effectively.

Q: What are polynomial functions?

A: Polynomial functions are mathematical expressions that involve variables raised to non-negative integer powers, combined with coefficients. They are defined by a general form of $f(x) = a_nx^n + a_{n-1}x^{n-1} + ... + a_1x + a_0$.

Q: How do you determine the degree of a polynomial?

A: The degree of a polynomial is determined by the highest power of the variable in the expression. For example, in $f(x) = 3x^4 + 2x^3 + 5$, the degree is 4.

Q: What operations can be performed on polynomial functions?

A: Common operations on polynomial functions include addition, subtraction, multiplication, and division. Each operation involves combining like terms or applying the distributive property.

Q: How do you find the roots of a polynomial function?

A: To find the roots of a polynomial function, set the function equal to zero and solve for the variable. This can be done through factoring, using the quadratic formula, or numerical methods for higher-degree polynomials.

Q: What is the significance of the leading coefficient?

A: The leading coefficient of a polynomial influences the graph's end behavior. A positive leading coefficient in an even-degree polynomial means the graph opens upwards, while a negative one means it opens downwards.

Q: How can polynomial functions be applied in real life?

A: Polynomial functions can model various real-world situations, such as calculating areas, predicting profits in business, and analyzing physical movements in physics.

Q: What tools can help in graphing polynomial functions?

A: Graphing calculators, graphing software like Desmos, and online math platforms provide tools to visualize polynomial functions and understand their characteristics.

Q: What resources are available for studying polynomial functions?

A: Resources include educational websites, textbooks focused on algebra, and specific materials from educators like Gina Wilson that provide worksheets and practice problems related to polynomial functions.

Q: Can polynomial functions have complex roots?

A: Yes, polynomial functions can have complex roots, particularly when the degree is odd or when the discriminant of a quadratic polynomial is negative. The fundamental theorem of algebra states that a polynomial will have as many roots as its degree, including complex ones.

Gina Wilson All Things Algebra Polynomial Functions

gina wilson all things algebra polynomial functions: Quadratic and Other Polynomial Functions Michael Wheal, 1999

gina wilson all things algebra polynomial functions: Algebra of Polynomials , 2000-04-01 Algebra of Polynomials

gina wilson all things algebra polynomial functions: *Polynomial functions* Burt Kaufman, 1967

gina wilson all things algebra polynomial functions: Polynomial Resolution Theory William A. Hardy, 2005 This book is the definitive work on polynomial solution theory. Starting with the simplest linear equations with complex coefficients, this book proceeds in a step by step logical manner to outline the method for solving equations of arbitrarily high degree. Polynomial Resolution Theory is an invaluable book because of its unique perspective on the age old problem of solving polynomial equations of arbitrarily high degree. First of all Hardy insists upon pursuing the subject by using general complex coefficients rather than restricting himself to real coefficients. Complex numbers are used in ordered pair (x,y) form rather than the more traditional x + iy (or x + jy) notation. As Hardy comments, The Fundamental Theorem of Algebra makes the treatments of polynomials with complex coefficients mandatory. We must not allow applications to direct the way mathematics is presented, but must permit the mathematical results themselves determine how to present the subject. Although practical, real-world applications are important, they must not be allowed to dictate the way in which a subject is treated. Thus, although there are at present no practical applications which employ polynomials with complex coefficients, we must present this subject with complex rather than restrictive real coefficients. This book then proceeds to recast familiar results in a more consistent notation for later progress. Two methods of solution to the general cubic equation with complex coefficients are presented. Then Ferrari's solution to the general complex bicubic (fourth degree) polynomial equation is presented. After this Hardy seamlessly presents the first extension of Ferrari's work to resolving the general bicubic (sixth degree) equation with complex coefficients into two component cubic equations. Eight special cases of this equation which are solvable in closed form are developed with detailed examples. Next the resolution of the octal (eighth degree) polynomial equation is developed along with twelve special cases which are solvable in closed form. This book is appropriate for students at the advanced college algebra level who have an understanding of the basic arithmetic of the complex numbers and know how to use a calculator which handles complex numbers directly. Hardy continues to develop the theory of polynomial resolution to equations of degree forty-eight. An extensive set of appendices is useful for verifying derived results and for rigging various special case equations. This is the 3rd edition of Hardy's book.

gina wilson all things algebra polynomial functions: *Polynomials* E.J. Barbeau, 2003-10-09 The book extends the high school curriculum and provides a backdrop for later study in calculus, modern algebra, numerical analysis, and complex variable theory. Exercises introduce many techniques and topics in the theory of equations, such as evolution and factorization of polynomials, solution of equations, interpolation, approximation, and congruences. The theory is not treated formally, but rather illustrated through examples. Over 300 problems drawn from journals, contests, and examinations test understanding, ingenuity, and skill. Each chapter ends with a list of hints; there are answers to many of the exercises and solutions to all of the problems. In addition, 69 explorations invite the reader to investigate research problems and related topics.

gina wilson all things algebra polynomial functions: Polynomial Completeness in Algebraic Systems Kalle Kaarli, Alden F. Pixley, 2000-07-21 The study of polynomial completeness of algebraic systems has only recently matured, and until now, lacked a unified treatment. Polynomial Completeness in Algebraic Systems examines the entire field with one coherent approach. The authors focus on the theory of affine complete varieties but also give the primary known results on affine completeness in special varieties. The book includes an extensive introductory chapter that provides the necessary background and makes the results accessible to graduate students as well as researchers. Numerous exercises illustrate the theory, and examples-and counterexamples-clarify the boundaries of the subject.

gina wilson all things algebra polynomial functions: Polynomials Edward Barbeau, 1989 This book provides a backdrop for study in calculus, modern algebra, numerical analysis and complex variable theory, through examples. Includes some 300 problems drawn from journals, contests, and examinations to test understanding, ingenuity, and skill.

gina wilson all things algebra polynomial functions: Special Functions and Orthogonal Polynomials Diego Dominici, 2008-10-16 This volume contains fourteen articles that represent the AMS Special Session on Special Functions and Orthogonal Polynomials, held in Tucson, Arizona in April of 2007. It gives an overview of the modern field of special functions with all major subfields represented, including: applications to algebraic geometry, asymptotic analysis, conformal mapping, differential equations, elliptic functions, fractional calculus, hypergeometric and q-hypergeometric series, nonlinear waves, number theory, symbolic and numerical evaluation of integrals, and theta functions. A few articles are expository, with extensive bibliographies, but all contain original research. This book is intended for pure and applied mathematicians who are interested in recent developments in the theory of special functions. It covers a wide range of active areas of research and demonstrates the vitality of the field.

gina wilson all things algebra polynomial functions: Algebra of Polynomials Hans Lausch, Wilfried Nöbauer, 1978

gina wilson all things algebra polynomial functions: Geometry of Polynomials Morris Marden, 1949-12-31 During the years since the first edition of this well-known monograph appeared, the subject (the geometry of the zeros of a complex polynomial) has continued to display the same outstanding vitality as it did in the first 150 years of its history, beginning with the contributions of Cauchy and Gauss. Thus, the number of entries in the bibliography of this edition had to be increased from about 300 to about 600 and the book enlarged by one third. It now includes a more extensive treatment of Hurwitz polynomials and other topics. The new material on infrapolynomials, abstract polynomials, and matrix methods is of particular interest.

gina wilson all things algebra polynomial functions: Polynomials Alpha Omega Publications, 2001-03

gina wilson all things algebra polynomial functions: Theory of Uniform Approximation of Functions by Polynomials Vladislav K. Dzyadyk, Igor A. Shevchuk, 2008-09-25 A thorough, self-contained and easily accessible treatment of the theory on the polynomial best approximation of functions with respect to maximum norms. The topics include Chebychev theory, Weierstraß theorems, smoothness of functions, and continuation of functions.

gina wilson all things algebra polynomial functions: Laredo Lectures on Orthogonal Polynomials and Special Functions Renato Alvarez-Nodarse, Francisco Marcellán, Walter van Assche, 2004 This new book presents research in orthogonal polynomials and special functions. Recent developments in the theory and accomplishments of the last decade are pointed out and directions for research in the future are identified. The topics covered include matrix orthogonal polynomials, spectral theory and special functions, Asymptotics for orthogonal polynomials via Riemann-Hilbert methods, Polynomial wavelets and Koornwinder polynomials.

gina wilson all things algebra polynomial functions: *Solving Polynomial Equations* Alicia Dickenstein, 2005-04-27 This book provides a general introduction to modern mathematical aspects in computing with multivariate polynomials and in solving algebraic systems. It presents the state of the art in several symbolic, numeric, and symbolic-numeric techniques, including effective and algorithmic methods in algebraic geometry and computational algebra, complexity issues, and applications ranging from statistics and geometric modelling to robotics and vision. Graduate students, as well as researchers in related areas, will find an excellent introduction to currently interesting topics. These cover Groebner and border bases, multivariate resultants, residues, primary decomposition, multivariate polynomial factorization, homotopy continuation, complexity issues, and their applications.

gina wilson all things algebra polynomial functions: Polynomials and Polynomial Functions on Infinite Algebraic Extensions of Finite Fields and Their Related Algebras George E. Schnibben, 1984

gina wilson all things algebra polynomial functions: The Algebra of Polynomial Functions on a Non-associative Algebra David R. Finston, 1983

gina wilson all things algebra polynomial functions: *Moments, Positive Polynomials And Their Applications* Jean Bernard Lasserre, 2009-10-02 Many important applications in global optimization, algebra, probability and statistics, applied mathematics, control theory, financial mathematics, inverse problems, etc. can be modeled as a particular instance of the Generalized Moment Problem (GMP).This book introduces a new general methodology to solve the GMP when its data are polynomials and basic semi-algebraic sets. This methodology combines semidefinite programming with recent results from real algebraic geometry to provide a hierarchy of semidefinite relaxations converging to the desired optimal value. Applied on appropriate cones, standard duality in convex optimization nicely expresses the duality between moments and positive polynomials.In the second part, the methodology is particularized and described in detail for various applications, including global optimization, probability, optimal control, mathematical finance, multivariate integration, etc., and examples are provided for each particular application.

gina wilson all things algebra polynomial functions: Orthogonal Polynomials of Several Variables Charles F. Dunkl, Yuan Xu, 2014-08-21 Serving both as an introduction to the subject and as a reference, this book presents the theory in elegant form and with modern concepts and notation. It covers the general theory and emphasizes the classical types of orthogonal polynomials whose weight functions are supported on standard domains. The approach is a blend of classical analysis and symmetry group theoretic methods. Finite reflection groups are used to motivate and classify symmetries of weight functions and the associated polynomials. This revised edition has been updated throughout to reflect recent developments in the field. It contains 25% new material, including two brand new chapters on orthogonal polynomials in two variables, which will be especially useful for applications, and orthogonal polynomials on the unit sphere. The most modern and complete treatment of the subject available, it will be useful to a wide audience of mathematicians and applied scientists, including physicists, chemists and engineers.

gina wilson all things algebra polynomial functions: Selected Topics on Polynomials Andrzej Schinzel, 1982

gina wilson all things algebra polynomial functions: *Mathematics 30* Alberta. Alberta Education, Alberta. Distance Learning, Alberta. Alberta Education. Alberta Distance Learning Centre, 1995

Related to gina wilson all things algebra polynomial functions

Update on Asthma Management: the 2022 GINA Report Authors review changes in the diagnosis, workup, and treatment of asthma in the 2022 GINA report

GINA 2024 Asthma Update: Revised Recommendations on The GINA 2024 asthma update includes new guidance on medications, monitoring, treatment goals, remission, cough variant asthma, children, and more

GINA 2025 Asthma Update: T2 Biomarkers & Young Children The GINA 2025 asthma update includes new guidance on T2 biomarkers, asthma in young children, and climate change, as well as many updated charts and tools

Post Asthma Exacerbation, Better Therapy Adherence Is Rare and Researchers assessed whether having a severe asthma exacerbation affected patients' ICS therapy adherence in a way that improved future exacerbation outcomes

PA & NP Medical Guidance | Clinical Diagnosis & Treatment Physician assistants and nurse practitioners use Clinical Advisor for updated medical guidance to diagnose and treat common medical conditions in daily practice

Gina Scandaglia, PA-S, Author at Clinical Advisor Gina Scandaglia, PA-S, is a PA student at St John's University in Queens, New York

Dr Gina Friel Creates Screening Process for Childhood Obesity Gina A. Friel, DNP, RN, CRNP-PC discusses her interest in patients with overweight and obesity, food insecurity, and her efforts to improve health and wellbeing, diet

AIRQ Tool Heightens Awareness of Uncontrolled Asthma, The AIRQ heightens clinician awareness of uncontrolled asthma that might be missed by ACT, GINA SCT, and EO in underestimating uncontrolled asthma

Ask the Expert: Asthma Treatment and Insurance - Clinical Advisor In a recent feature article on asthma management, Theresa Capriotti, DO, MSN, CRNP, RN, and colleagues reviewed changes in the diagnosis, workup, and treatment of

Gina R. Brown, MPAS, PA-C; Seth Metzler, MPA, PA-C; Trisha Gina R. Brown, MPAS, PA-C; Seth Metzler, MPA, PA-C; Trisha Desjardins, MPA, PA-C; Brittany Seiler, MPA, PA-C Cookie Settings

Update on Asthma Management: the 2022 GINA Report Authors review changes in the diagnosis, workup, and treatment of asthma in the 2022 GINA report

GINA 2024 Asthma Update: Revised Recommendations on The GINA 2024 asthma update includes new guidance on medications, monitoring, treatment goals, remission, cough variant asthma, children, and more

GINA 2025 Asthma Update: T2 Biomarkers & Young Children The GINA 2025 asthma update includes new guidance on T2 biomarkers, asthma in young children, and climate change, as well as many updated charts and tools

Post Asthma Exacerbation, Better Therapy Adherence Is Rare and Researchers assessed whether having a severe asthma exacerbation affected patients' ICS therapy adherence in a way that improved future exacerbation outcomes

PA & NP Medical Guidance | Clinical Diagnosis & Treatment Physician assistants and nurse practitioners use Clinical Advisor for updated medical guidance to diagnose and treat common medical conditions in daily practice

Gina Scandaglia, PA-S, Author at Clinical Advisor Gina Scandaglia, PA-S, is a PA student at St John's University in Queens, New York

Dr Gina Friel Creates Screening Process for Childhood Obesity Gina A. Friel, DNP, RN, CRNP-PC discusses her interest in patients with overweight and obesity, food insecurity, and her efforts to improve health and wellbeing, diet

AIRQ Tool Heightens Awareness of Uncontrolled Asthma, The AIRQ heightens clinician awareness of uncontrolled asthma that might be missed by ACT, GINA SCT, and EO in underestimating uncontrolled asthma

Ask the Expert: Asthma Treatment and Insurance - Clinical Advisor In a recent feature article on asthma management, Theresa Capriotti, DO, MSN, CRNP, RN, and colleagues reviewed changes in the diagnosis, workup, and treatment of

Gina R. Brown, MPAS, PA-C; Seth Metzler, MPA, PA-C; Trisha Gina R. Brown, MPAS, PA-C; Seth Metzler, MPA, PA-C; Trisha Desjardins, MPA, PA-C; Brittany Seiler, MPA, PA-C Cookie Settings

Update on Asthma Management: the 2022 GINA Report Authors review changes in the diagnosis, workup, and treatment of asthma in the 2022 GINA report

GINA 2024 Asthma Update: Revised Recommendations on The GINA 2024 asthma update includes new guidance on medications, monitoring, treatment goals, remission, cough variant

asthma, children, and more

GINA 2025 Asthma Update: T2 Biomarkers & Young Children The GINA 2025 asthma update includes new guidance on T2 biomarkers, asthma in young children, and climate change, as well as many updated charts and tools

Post Asthma Exacerbation, Better Therapy Adherence Is Rare and Researchers assessed whether having a severe asthma exacerbation affected patients' ICS therapy adherence in a way that improved future exacerbation outcomes

PA & NP Medical Guidance | Clinical Diagnosis & Treatment Physician assistants and nurse practitioners use Clinical Advisor for updated medical guidance to diagnose and treat common medical conditions in daily practice

Gina Scandaglia, PA-S, Author at Clinical Advisor Gina Scandaglia, PA-S, is a PA student at St John's University in Queens, New York

Dr Gina Friel Creates Screening Process for Childhood Obesity Gina A. Friel, DNP, RN, CRNP-PC discusses her interest in patients with overweight and obesity, food insecurity, and her efforts to improve health and wellbeing, diet

AIRQ Tool Heightens Awareness of Uncontrolled Asthma, The AIRQ heightens clinician awareness of uncontrolled asthma that might be missed by ACT, GINA SCT, and EO in underestimating uncontrolled asthma

Ask the Expert: Asthma Treatment and Insurance - Clinical Advisor In a recent feature article on asthma management, Theresa Capriotti, DO, MSN, CRNP, RN, and colleagues reviewed changes in the diagnosis, workup, and treatment of

Gina R. Brown, MPAS, PA-C; Seth Metzler, MPA, PA-C; Trisha Gina R. Brown, MPAS, PA-C; Seth Metzler, MPA, PA-C; Trisha Desjardins, MPA, PA-C; Brittany Seiler, MPA, PA-C Cookie Settings

Update on Asthma Management: the 2022 GINA Report Authors review changes in the diagnosis, workup, and treatment of asthma in the 2022 GINA report

GINA 2024 Asthma Update: Revised Recommendations on The GINA 2024 asthma update includes new guidance on medications, monitoring, treatment goals, remission, cough variant asthma, children, and more

GINA 2025 Asthma Update: T2 Biomarkers & Young Children The GINA 2025 asthma update includes new guidance on T2 biomarkers, asthma in young children, and climate change, as well as many updated charts and tools

Post Asthma Exacerbation, Better Therapy Adherence Is Rare and Researchers assessed whether having a severe asthma exacerbation affected patients' ICS therapy adherence in a way that improved future exacerbation outcomes

PA & NP Medical Guidance | Clinical Diagnosis & Treatment Physician assistants and nurse practitioners use Clinical Advisor for updated medical guidance to diagnose and treat common medical conditions in daily practice

Gina Scandaglia, PA-S, Author at Clinical Advisor Gina Scandaglia, PA-S, is a PA student at St John's University in Queens, New York

Dr Gina Friel Creates Screening Process for Childhood Obesity Gina A. Friel, DNP, RN, CRNP-PC discusses her interest in patients with overweight and obesity, food insecurity, and her efforts to improve health and wellbeing, diet

AIRQ Tool Heightens Awareness of Uncontrolled Asthma, The AIRQ heightens clinician awareness of uncontrolled asthma that might be missed by ACT, GINA SCT, and EO in underestimating uncontrolled asthma

Ask the Expert: Asthma Treatment and Insurance - Clinical Advisor In a recent feature article on asthma management, Theresa Capriotti, DO, MSN, CRNP, RN, and colleagues reviewed changes in the diagnosis, workup, and treatment of

Gina R. Brown, MPAS, PA-C; Seth Metzler, MPA, PA-C; Trisha Gina R. Brown, MPAS, PA-C; Seth Metzler, MPA, PA-C; Trisha Desjardins, MPA, PA-C; Brittany Seiler, MPA, PA-C Cookie Settings