
Lecture:

nm *a* *m* *c* *cb* *d* *a* *'* *,* *M* *d* *c* *cdca* *am* *c* *bc* *a* *gn* *gn*

Hours
Per
Topic

Lecture:

a *gn* *c* *cc* *nm* *ni* *m* *dn* *c*
a *gn* *c* *co* *gd* *e* *anel* *ggc* *m* *am* *c* *,*

		and a hyperbola. Apply conics to the solution of applications problems.
Sequences and series, arithmetic and geometric: The binomial theorem, mathematical induction, counting theory, and probability.	12	Determine whether a sequence is arithmetic or geometric. Find the nth term of an arithmetic or geometric sequence. Determine the convergence or divergence of an infinite sequence. Find the sum of a finite arithmetic or geometric series. Use summation notation.

		(GCF) and a polynomial. Factor by grouping. Factor trinomials of the form $x^2 + bx + c$. Factor trinomials of the form $ax^2 + bx + c$, where a is not equal to 1. Factor special products.
Functions and graphs. Introduction to functions, function notation, and function operations.	1	Identify the domain and range of a relation and determine if the relation is a function. Identify functions and their domain and range. Find the value of a function. Graph linear functions. Add or subtract functions, multiply functions, and divide functions.
Systems of linear equations and problem solving.	2	Determine if an ordered pair is a solution for a system of equations.

Review of solving systems of linear equations in two variables graphically.

Review of solving systems of linear equations in two variables by substitution.

Review of solving systems of linear equations in two variables by elimination.

Solving systems of linear equations in three variables.

Solving systems of linear equations using matrices or Cramer's Rule.

Solving systems of linear inequalities.		Graph the solution set of a system of linear inequalities. Solve applications involving a system of linear inequalities.
Exponents, radicals, radical expressions and functions.	4	Find the n th root of a number. Approximate roots using a calculator. Simplify radical expressions. Evaluate radical functions. Find the domain of radical functions. Solve applications involving radical functions.
Rational exponents.		Evaluate rational exponents. Write radicals as expressions raised to rational exponents. Simplify expressions with rational number exponents using the rules of exponents. Use rational exponents to simplify radical expressions.
Multiplying, dividing, and simplifying radicals.		Multiply and divide radical expressions. Use the product rule to simplify radical expressions.
Adding, subtracting, and multiplying radical expressions.		Add or subtract like radicals. Use the distributive property in expressions containing radicals. Simplify radical expressions that contain mixed operations.
Rationalizing numerators and denominators of radical expressions.		Rationalize denominators. Rationalize denominators that have a sum or difference with a square root term. Rationalize numerators.
Radical equations and problem solving.		Use the power rule to solve radical equations.
Complex numbers.		Write imaginary numbers using i . Perform arithmetic operations with complex numbers. Raise i to powers.
Quadratic functions and equations. Completing the square.		Use the square root principle to solve quadratic equations. Solve quadratic equations by completing the square.
Solving quadratic equations using the quadratic formula.		Solve quadratic equations using the quadratic formula. Use the discriminant to determine the number of real solutions that a quadratic equation will have. Find the x - and y -intercepts of a quadratic function. Solve applications using the quadratic formula.
Solving equations that are quadratic in form.		Solve eq

<p>Graphing quadratic equations.</p> <p>Solving nonlinear inequalities.</p>		<p>problems using equations that are quadratic in form.</p> <p>Graph quadratic functions of the form $f(x) = ax^2$. Graph quadratic functions of the form $f(x) = ax^2 + k$. Graph quadratic functions of the form $f(x) = a(x-h)^2$. Graph quadratic functions of the form $f(x) = a(x-h)^2 + k$. Graph quadratic functions of the form $f(x) = ax^2 + bx + c$. Solve applications involving parabolas.</p> <p>Solve quadratic and other inequalities. Solve rational inequalities.</p>
<p>Exponential and logarithmic functions. Composite and inverse functions.</p>	<p>3</p>	<p>Find the composition of two functions. Show that two functions are inverses. Show that a function is one-to-one. Find the inverse of a function. Graph a given function's inverse function.</p>
<p>Exponential functions.</p>		
<p>Logarithmic functions.</p>		
<p>Properties of logarithms.</p>		
<p>Common and natural logarithms.</p>		
<p>Exponential and logarithmic equations with applications.</p>		

<p>Ellipses and hyperbolas.</p> <p>Nonlinear systems of equations.</p>		<p>points. Graph circles of the form $(x-h)^2 + (y-k)^2 = r^2$. Find the equation of a circle with a given center and radius. Graph circles of the form $x^2 + y^2 + dx + ey + f = 0$.</p> <p>Graph ellipses and hyperbolas.</p> <p>Solve nonlinear systems of equations using substitution. Solve nonlinear systems of equations using elimination.</p> <p>Graph nonlinear inequalities. Graph the solution set of a system of nonlinear inequalities.</p>
<p>Arithmetic sequences and series.</p> <p>Geometric sequences and series.</p> <p>Binomial theorem.</p>	1	<p>Find the terms of a sequence when given the general term. Define and write arithmetic sequences, find their common difference, and find a particular term. Define and write series, find partial sums, and use summation notation. Write arithmetic series and find their sums.</p> <p>Write a geometric sequence and find its common ratio and a specified term. Find partial sums of geometric series. Find the sums of infinite geometric series. Solve applications using geometric series.</p> <p>Expand a binomial using Pascal's triangle. Evaluate factorial notation and binomial coefficients. Expand a binomial using the binomial theorem. Find a particular term of a binomial expansion.</p>