

Mat 103

	Mat 103 A and B Topics
	<b>Objective 1, due September 6</b>
1	Computing a percentage from a table of values
2	Converting a decimal to a proper fraction in simplest form: Advanced
3	Decimal place value: Tenths and hundredths
4	Division of a decimal by a power of ten
5	Equivalent fractions
6	Fractional part of a circle
7	Fractional position on a number line
8	Ordering integers
9	Plotting integers on a number line
10	Writing a mixed number as an improper fraction
11	Writing a ratio as a percentage without a calculator
12	Writing a signed number for a real-world situation
13	Writing an improper fraction as a mixed number
	<b>Objective 2, due September 13</b>
1	Writing expressions using exponents
2	Introduction to exponents
3	Equivalent fractions
4	Simplifying a fraction
5	Multi-step word problem involving fractions and multiplication
6	Rounding decimals
7	Multiplication of a decimal by a power of ten
8	Converting a fraction to a terminating decimal: Basic
9	Converting a fraction to a terminating decimal: Advanced
10	Converting between percentages and decimals
11	Converting a percentage to a fraction in simplest form
12	Converting a fraction to a percentage: Denominator of 20, 25, or 50
13	Plotting rational numbers on a number line
14	Using a common denominator to order fractions
15	Identifying numbers as integers or non-integers
16	Identifying numbers as rational or irrational
17	Signed decimal addition and subtraction with 3 numbers
18	Exponents and integers: Problem type 1
19	Exponents and integers: Problem type 2
20	Exponents and signed fractions
21	Understanding the product rule of exponents
22	Introduction to the product rule of exponents
23	Product rule with positive exponents: Univariate
24	Product rule with positive exponents: Multivariate

25	Ordering numbers with positive exponents
26	Understanding the power rules of exponents
27	Introduction to the power of a power rule of exponents
28	Introduction to the power of a product rule of exponents
29	Power rules with positive exponents: Multivariate products
30	Power rules with positive exponents: Multivariate quotients
31	Power and product rules with positive exponents
32	Introduction to the quotient rule of exponents
33	Quotient of expressions involving exponents
34	Evaluating expressions with exponents of zero
35	Evaluating an expression with a negative exponent: Positive fraction base
36	Evaluating an expression with a negative exponent: Negative integer base
37	Ordering numbers with negative exponents
38	Rewriting an algebraic expression without a negative exponent
39	Product rule with negative exponents
40	Quotient rule with negative exponents: Problem type 1
41	Power of a power rule with negative exponents
42	Power rules with negative exponents
43	Power and quotient rules with negative exponents: Problem type 1
44	Power and quotient rules with negative exponents: Problem type 2
45	Power, product, and quotient rules with negative exponents
46	Scientific notation with positive exponent
47	Scientific notation with negative exponent
<b>Objective 3, due September 20</b>	
1	Degree and leading coefficient of a univariate polynomial
2	Degree of a multivariate polynomial
3	Domain and range from ordered pairs
4	Estimating a square root
5	Evaluating a linear expression: Integer multiplication with addition or subtraction
6	Evaluating a quadratic expression: Integers
7	Evaluating functions: Linear and quadratic or cubic
8	Finding a percentage of a whole number without a calculator: Basic
9	Integer addition: Problem type 1
10	Integer addition: Problem type 2
11	Integer subtraction: Problem type 1
12	Integer subtraction: Problem type 2
13	Integer subtraction: Problem type 3
14	Properties of addition
15	Properties of real numbers
16	Simplifying a fraction
17	Square root of a perfect square

18	Square root of a rational perfect square
19	Using a common denominator to order fractions
20	Addition of mixed numbers with different denominators and carry
21	Addition of mixed numbers with the same denominator and carry
22	Addition or subtraction of fractions with different denominators
23	Signed decimal addition and subtraction with 3 numbers
24	Signed fraction multiplication: Advanced
25	Signed fraction multiplication: Basic
26	Simplifying a sum or difference of three univariate polynomials
27	Simplifying a sum or difference of two univariate polynomials
28	Writing a mixed number as an improper fraction
29	Writing an improper fraction as a mixed number
30	Signed fraction addition or subtraction: Advanced
31	Signed fraction addition or subtraction: Basic
32	Subtraction of mixed numbers with different denominators and borrowing
33	Rational exponents: Negative exponents and fractional bases
34	Rational exponents: Products and quotients with negative exponents
35	Simplifying a higher radical expression: Multivariate
36	Simplifying a higher root of a whole number
37	Simplifying the square root of a whole number less than 100
38	Square root of a perfect square monomial
39	Using $i$ to rewrite square roots of negative numbers
40	Word problem with addition of 3 or 4 decimals and whole numbers
41	Word problem with subtraction of a whole number and a decimal: Regrouping with zeros
42	Finding inputs and outputs of a function from its graph
43	Power and quotient rules with negative exponents: Problem type 2
44	Power rules with positive exponents: Multivariate quotients
45	Power, product, and quotient rules with negative exponents
46	Quotient of expressions involving exponents
<b>Objective 4, due September 27</b>	
1	Adding rational expressions with common denominators and binomial numerators
2	Adding rational expressions with denominators $ax$ and $bx$ : Advanced
3	Addition of mixed numbers with different denominators and carry
4	Addition or subtraction of fractions with different denominators
5	Addition or subtraction of fractions with the same denominator
6	Area involving rectangles and circles
7	Area of a piecewise rectangular figure
8	Combining like terms in a quadratic expression
9	Combining like terms: Integer coefficients
10	Combining like terms: Whole number coefficients
11	Converting a decimal to a proper fraction in simplest form: Advanced

12	Converting a fraction to a repeating decimal: Advanced
13	Converting a fraction to a repeating decimal: Basic
14	Converting a fraction to a terminating decimal: Advanced
15	Converting a fraction to a terminating decimal: Basic
16	Converting a mixed number to a terminating decimal: Advanced
17	Converting a mixed number to a terminating decimal: Basic
18	Converting between percentages and decimals in a real-world situation
19	Distributive property: Integer coefficients
20	Fraction multiplication
21	Integer multiplication and division
22	Introduction to fraction multiplication
23	Mixed number multiplication
24	Multiplication involving binomials and trinomials in two variables
25	Multiplication of 3 or 4 integers
26	Multiplication of a decimal by a power of ten
27	Multiplication of a decimal by a whole number
28	Multiplying a multivariate polynomial by a monomial
29	Multiplying a univariate polynomial by a monomial with a positive coefficient
30	Multiplying binomials in two variables
31	Multiplying binomials with leading coefficients of 1
32	Multiplying complex numbers
33	Multiplying conjugate binomials: Univariate
34	Multiplying numbers written in scientific notation: Basic
35	Multi-step word problem involving fractions and multiplication
36	Perimeter of a square or a rectangle
37	Product of a fraction and a whole number: Problem type 1
38	Product of a unit fraction and a whole number
39	Rational exponents: Products and quotients with negative exponents
40	Square root addition or subtraction
41	Square root multiplication: Advanced
42	Squaring a binomial: Univariate
43	Subtraction of mixed numbers with different denominators and borrowing
44	Subtraction of mixed numbers with the same denominator and borrowing
45	Translating a phrase into a two-step expression
46	Translating a sentence by using an inequality symbol
47	Translating a sentence into a one-step equation
48	Using distribution and combining like terms to simplify: Univariate
49	Using distribution with double negation and combining like terms to simplify: Multivariate
50	Writing a multi-step inequality for a real-world situation
51	Writing a one-step expression for a real-world situation
52	Writing an inequality for a real-world situation

<b>Objective 5, , due October 11</b>	
1	Adding rational expressions involving different quadratic denominators
2	Adding rational expressions with linear denominators without common factors: Advanced
3	Adding rational expressions with multivariate monomial denominators: Advanced
4	Area of a square or a rectangle
5	Area of a triangle
6	Circumference and area of a circle
7	Decimal multiplication: Problem type 1
8	Dividing rational expressions involving quadratics with leading coefficients greater than 1
9	Factoring a difference of squares in one variable: Advanced
10	Factoring a difference of squares in one variable: Basic
11	Factoring a multivariate polynomial by grouping: Problem type 1
12	Factoring a multivariate polynomial by grouping: Problem type 2
13	Factoring a perfect square trinomial with leading coefficient 1
14	Factoring a product of a quadratic trinomial and a monomial
15	Factoring a quadratic in two variables with leading coefficient greater than 1
16	Factoring a quadratic with leading coefficient 1
17	Factoring a quadratic with leading coefficient greater than 1: Problem type 1
18	Factoring a quadratic with leading coefficient greater than 1: Problem type 2
19	Factoring a quadratic with leading coefficient greater than 1: Problem type 3
20	Factoring a sum or difference of two cubes
21	Factoring a univariate polynomial by grouping: Problem type 1
22	Factoring a univariate polynomial by grouping: Problem type 2
23	Factoring out a monomial from a polynomial: Multivariate
24	Factoring out a monomial from a polynomial: Univariate
25	Factoring with repeated use of the difference of squares formula
26	Factors
27	Fraction multiplication
28	Greatest common factor of 2 numbers
29	Greatest common factor of two multivariate monomials
30	Introduction to fraction multiplication
31	Introduction to the GCF of two monomials
32	Introduction to the LCM of two monomials
33	Least common multiple of 2 numbers
34	Least common multiple of two monomials
35	Multiplying binomials in two variables
36	Multiplying rational expressions involving multivariate monomials
37	Multiplying rational expressions involving quadratics with leading coefficients of 1
38	Polynomial long division: Problem type 2
39	Prime factorization
40	Prime numbers

41	Rationalizing a denominator using conjugates: Variable in denominator
42	Simplifying a product involving square roots using the distributive property: Advanced
43	Simplifying a radical expression with two variables
44	Simplifying a ratio of multivariate polynomials
45	Simplifying a ratio of polynomials: Problem type 1
46	Simplifying a ratio of polynomials: Problem type 2
47	Simplifying a sum or difference of radical expressions: Multivariate
48	Square roots of integers raised to even exponents
49	Word problem involving addition or subtraction of fractions with different denominators
50	Word problem involving fractions and multiplication
51	Word problem with decimal addition and multiplication
	<b>Objective 6, due October 25</b>
1	Absolute value of a number
2	Adding rational expressions involving different quadratic denominators
3	Dividing a polynomial by a monomial: Multivariate
4	Dividing a polynomial by a monomial: Univariate
5	Dividing numbers written in scientific notation: Basic
6	Dividing rational expressions involving multivariate monomials
7	Division involving a whole number and a fraction
8	Division of a decimal by a 2-digit decimal
9	Division of a decimal by a whole number
10	Finding the percentage increase or decrease: Advanced
11	Finding the sale price without a calculator given the original price and percent discount
12	Fraction division
13	Mean of a data set
14	Mixed number division
15	Operations with absolute value: Problem type 2
16	Order of operations with fractions: Problem type 1
17	Order of operations with fractions: Problem type 2
18	Order of operations with integers
19	Order of operations with integers and exponents
20	Order of operations with whole numbers
21	Order of operations with whole numbers and exponents: Basic
22	Order of operations with whole numbers and grouping symbols
23	Polynomial long division: Problem type 1
24	Polynomial long division: Problem type 2
25	Polynomial long division: Problem type 3
26	Rationalizing a denominator using conjugates: Square root in numerator
27	Rationalizing a denominator: Quotient involving higher radicals and monomials
28	Rationalizing a denominator: Quotient involving square roots
29	Simplifying a product involving square roots using the distributive property: Advanced

30	Simplifying a product of radical expressions: Multivariate
31	Simplifying a sum or difference of radical expressions: Multivariate
32	The reciprocal of a number
<b>Objective 7, due November 1</b>	
1	Additive property of equality with a negative coefficient
2	Additive property of equality with decimals
3	Additive property of equality with fractions and mixed numbers
4	Additive property of equality with integers
5	Additive property of inequality with whole numbers
6	Applying the percent equation: Problem type 1
7	Applying the percent equation: Problem type 2
8	Computations from a circle graph
9	Finding the original price given the sale price and percent discount
10	Finding the perimeter or area of a rectangle given one of these values
11	Finding the side length of a rectangle given its perimeter or area
12	Finding the value for a new score that will yield a given mean
13	Graphing a compound inequality on the number line
14	Graphing a linear inequality on the number line
15	Introduction to solving an absolute value equation
16	Multiplicative property of equality with decimals
17	Multiplicative property of equality with fractions
18	Multiplicative property of equality with integers
19	Multiplicative property of equality with signed fractions
20	Multiplicative property of inequality with integers
21	Similar polygons
22	Solving a compound linear inequality: Graph solution, basic
23	Solving a compound linear inequality: Interval notation
24	Solving a decimal word problem using a linear equation of the form $Ax + B = C$
25	Solving a decimal word problem using a linear equation with the variable on both sides
26	Solving a decimal word problem using a two-step linear inequality
27	Solving a fraction word problem using a linear equation of the form $Ax = B$
28	Solving a fraction word problem using a linear equation with the variable on both sides
29	Solving a linear equation with several occurrences of the variable: Fractional forms with binomial numerators
30	Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
31	Solving a linear equation with several occurrences of the variable: Variables on both sides and fractional coefficients
32	Solving a linear equation with several occurrences of the variable: Variables on both sides and two distributions
33	Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution

34	Solving a linear inequality with multiple occurrences of the variable: Problem type 3
35	Solving a proportion of the form $a/(x+b) = c/x$
36	Solving a two-step equation with integers
37	Solving a two-step equation with signed decimals
38	Solving a two-step equation with signed fractions
39	Solving a two-step linear inequality: Problem type 1
40	Solving a two-step linear inequality: Problem type 2
41	Solving a word problem on proportions using a unit rate
42	Solving a word problem using a quadratic equation with irrational roots
43	Solving a word problem with three unknowns using a linear equation
44	Solving equations with zero, one, or infinitely many solutions
45	Solving for a variable in terms of other variables in a linear equation with fractions
46	Solving for a variable in terms of other variables in a rational equation: Problem type 1
47	Table for a linear equation
48	Using two steps to solve an equation with whole numbers
49	Writing an inequality given a graph on the number line
<b>Objective 8, due November 15</b>	
1	Applying the quadratic formula: Exact answers
2	Completing the square
3	Computing a percent mixture
4	Computing unit prices to find the better buy
5	Converting between temperatures in Fahrenheit and Celsius
6	Finding the roots of a quadratic equation of the form $ax^2+bx=0$
7	Finding the roots of a quadratic equation with leading coefficient 1
8	Finding the roots of a quadratic equation with leading coefficient greater than 1
9	Finding the sale price without a calculator given the original price and percent discount
10	Roots of a product of polynomials
11	Solving a decimal word problem using a linear inequality with the variable on both sides
12	Solving a quadratic equation needing simplification
13	Solving a quadratic equation using the square root property: Exact answers, advanced
14	Solving a quadratic equation using the square root property: Exact answers, basic
15	Solving a quadratic equation with complex roots
16	Solving an absolute value equation: Problem type 1
17	Solving an absolute value equation: Problem type 2
18	Solving an absolute value inequality: Problem type 3
19	Solving an equation to find the value of an expression
20	Solving an equation written in factored form
21	Solving $x^2=a$ using the square root property
22	Translating a phrase into a one-step expression
23	Translating a phrase into a two-step expression
24	Translating a sentence into a compound inequality

25	Translating a sentence into a multi-step equation
26	Translating a sentence into a one-step equation
27	Word problem on proportions: Problem type 1
28	Writing a one-step expression for a real-world situation
29	Writing a signed number for a real-world situation
30	Writing an equation that models variation
<b>Objective 9, due November 22</b>	
1	Application problem with a linear function: Finding a coordinate given the slope and a point
2	Application problem with a linear function: Finding a coordinate given two points
3	Choosing a graph to fit a narrative : Advanced
4	Classifying systems of linear equations from graphs
5	Finding a solution to a linear equation in two variables
6	Finding intercepts of a nonlinear function given its graph
7	Finding slope given the graph of a line on a grid
8	Finding slope given two points on the line
9	Finding slopes of lines parallel and perpendicular to a line given in the form $Ax + By = C$
10	Finding the slope and y-intercept of a line given its equation in the form $Ax + By = C$
11	Finding the slope and y-intercept of a line given its equation in the form $y = mx + b$
12	Finding x- and y-intercepts of a line given the equation: Advanced
13	Graphically solving a system of linear equations
14	Graphing a line by first finding its slope and y-intercept
15	Graphing a line by first finding its x- and y-intercepts
16	Graphing a line given its equation in slope-intercept form: Fractional slope
17	Graphing a line given its equation in slope-intercept form: Integer slope
18	Graphing a line given its equation in standard form
19	Graphing a line given its x- and y-intercepts
20	Graphing a line through a given point with a given slope
21	Graphing a linear equation of the form $y = mx$
22	Graphing a vertical or horizontal line
23	Identifying solutions to a linear equation in two variables
24	Identifying solutions to a system of linear equations
25	Interpreting the graphs of two functions
26	Plotting a point in the coordinate plane
27	Pythagorean Theorem
28	Reading a point in the coordinate plane
29	Writing an equation and drawing its graph to model a real-world situation: Advanced
30	Writing an equation in slope-intercept form given the slope and a point
31	Writing an equation of a line given the y-intercept and another point
32	Writing equations of lines parallel and perpendicular to a given line through a point
33	Writing the equation of the line through two given points
34	Writing the equations of vertical and horizontal lines through a given point

