Curriculum Map

Name of Teacher __Ismath_____

Subject ____Gr-8 math_____   Month of October

Unit/Theme
CH 2.Linear Equations

Enduring Understandings: Students will be able to
1. Translate sentences into equations and equations into sentences. 2. Us algebra tiles to solve addition, subtraction, and multiplication equations. 3. Solve equations by using addition or subtraction. 4. Solve equations by using multiplication and division. 5. Use algebra to solve multi step equations. 6. Solve equations involving multiple operations. 7. Solve equations involving consecutive integers. 8. Solve equations with variables on each side. 9. Solve equations involving grouping symbols. 10. Evaluate absolute value expressions. 11. Solve absolute value equations. 12. Compare and solve ratios. 13. Find the percentage of change. Solve problems involving percent of change. 14. Find the percentile rank of a data item in a set of scores. 15. Solve equations for given variables. 16. Use formulas to solve real world problems. 17. Solve mixture problems. 18. Solve uniform motion problems.

Essential Questions
1. How do we understand and represent linear relationships? 2. Explain the solution to a system of linear equations graphically (as a point of intersection)? 3. Describe instances when a system of equations will yield one solution, no solutions or infinitely many solutions? 4. Why is it helpful to represent the same mathematical idea in different ways? 5. How do you solve linear equations with one or more solutions? 6. How do you solve a linear equation algebraically with one solution or no solution? 7. How do you use the slope formula? 8. 9. Are Percentage and percentile the same ?

Activities
Descriptive modelling pg:118 Algebra lab- solving multiple step equations

Assessments
Formative (Throughout) Mid chapter quiz pg-110

H.O.T problems
Spiral review
Guided practice
Check your understanding

Summative (End of Year)
Study Guide and review
Practice Test
Multiple choice tests
Free-response tests
Standardized test practice

Time Frame/Month: 21 days

Resources/Websites(Primary/Secondary)
Student edition
Interactive classroom

Textbook Name (Chapters/Pages)
Glencoe Algebra-1

Curriculum Map   Subject : Gr-8 Math   November

Unit/Theme: Chapter.5: Linear Inequalities
Chapter.6:Systems of Linear Equations and Inequalities

Enduring Understandings: Students will be able to

1. Solve linear inequalities by using addition.
2. Solve linear inequalities by using subtraction.
3. use algebra tiles to model solving inequalities.
4. solve linear inequalities by using multiplication.
5. Solve linear inequalities by using division.
6. Solve linear inequalities involving more than one operation.
7. Solve linear inequalities involving distributive property.
8. Identify compound statements connected by the word and or as true or false.
9. Solve Compound inequalities containing the word *and* and graph their solution set.
10. Solve Compound inequalities containing the word *or* and graph their solution set.
11. Solve and graph absolute value inequalities (less than/ greater than).
12. Graph linear inequalities on the coordinate plane.
13. Solve inequalities by graphing.
14. Use a graphing calculator to investigate the graphs of inequalities.
15. Determine the number of solutions of a system of linear equations has, if any.
16. Solve systems of linear equations by graphing.
17. Use a graphing calculator to solve a system of equations.
18. Solve systems of equations by using substitution.
19. Solve real-world problems involving systems of equations by using substitution.
20. Solve systems of equations by using elimination with addition.
21. Solve systems of equations by using elimination with subtraction.
22. Solve systems of equations by using elimination with multiplication.
23. Solve real-world problems involving systems of equations.
24. Determine the best method for solving systems of equations.
25. Apply systems of equations.
26. Use matrices to solve systems of equations.

Essential Questions:

1. How does solving equations apply to the real- world?
2. What is the real number system?
3. How do I justify the steps of simplification?
4. How can I use proportions to solve real-world problems?
5. How do I write an inverse variation function?
6. Why do I want to use matrices?
7. How do I solve one variable equations?
8. How do I isolate a variable?
9. How does solving inequalities apply to real-world?
10. How is solving inequalities the same and different from solving equations?
11. How can I use Venn Diagrams to Organize Information?
12. Where can I find compound inequalities in the real- world?
13. Which inequality symbol would you use to write the inequality? Explain.
14. What inequality can you write to explain any situation?
15. How can Algebra Skills be used in solving real world problems?
16. Can equations that appear to be different be equivalent?
17. Can I analyze, model, and solve mathematical situations using algebraic symbols? What kinds of relationships can proportions represent?
18. How do you represent relationships between quantities that are not equal?
19. Can inequalities that appear to be different be equivalent?
20. How can inequalities be used to represent relationships and solve problems?
21. How can you justify a solution path when solving equations and inequalities?
22. How do you solve absolute value equations and inequalities?
23. How is solving linear equations in one variable with numeric coefficients and solving linear equations in one variable with letter coefficients similar?
24. How can equations and inequalities be used to model, analyze and solve real-world and mathematical problems?
25. How can I solve an equation with variables on both sides?
26. How can I solve multiple step inequalities?

Activities

- Multi step inequalities partner coach
- Direct Hit game
- Number lines of inequalities task
- Khan academy multi-step and compound inequalities

● Khan academy solving absolute value inequalities

Assessments

Formative (Throughout) ● Teacher observation ● students sheets ● Check for understanding using active participation strategies. ● Exit slips/closure ● Using formative assessment for differentiation.

Summative (End of Year) ● quizzes ● Tests

Time Frame/Month: CH.5 weeks   Ch.6: 5weeks

Resources/Websites(Primary/Secondary) *www.bigideasmath.com* *www.khanacademy.com* *www.mathfishtank.com* *www.algebra1.com* *connectED.mcgraw-hill.com*

Textbook Name (Chapters/Pages): Glencoe Algebra 1 : McGraw Hill **Ch.5: Pages :282 to 331** **Ch.6: Pages: 332 to 387**

Curriculum Map

Name of Teacher: Ismath

Subject _Gr-8 Math   Month of December 2019

Unit/Theme Ch.4 Linear Functions and Equations of Linear Functions

Enduring Understandings

Students will be able to understand:
1. Linear equations, one solution, infinitely many solutions, no solution.
2. Solve linear equations using distributive property and combine like terms
3. Determine if an equation has one solution, infinitely many solutions or no solution
4. That a solution to a system of linear equations is an ordered pair that satisfies both equations
5. That graphed lines with one point of intersection (different slopes) will have one solution
6. That parallel lines (same slope, different y-intercept) have no solution
7. That lines that are the same (same slope, same y-intercept) have infinitely many solutions
8. Identify linear equations, intercepts and zeros.
9. Solve linear equations by graphing.
10. Estimate solutions to an equation by graphing.
11. Investigate the steepness of the line using concrete models.
12. Use the rate of change to solve problems, and find the slope of a line.
13. Write and graph direct variation equations.
14. Solve problems involving direct variation.
15. Recognize arithmetic sequences.
16. Relate arithmetic sequences to linear functions.
17. Write an equation for a proportional relationship.
18. Write an equation for a non-proportional relationship.
19. Identify the inverse relation of a discrete function.
20. Decide whether the inverse of a given function is also a function using the horizontal line test.
21. Graph the inverse of a function by switching the ordered pairs of that function.
22. Graph the inverse of a function by reflecting the function over the line.
23. Write equations of lines in point slope form.
24. Draw the inverse of a relation and determine whether the inverse is a function?

Essential Questions
1. How can the graph of y=mx+b be drawn from the graph of y=mx?
2. What is the slope of the graph of a given equation?
3. How do you write an equation in a slope-intercept form?
4. How would you describe the relationship between the vertical lines in a given graph?
5. How are lines of fit and linear regression similar? Different?
6. Explain why it may be helpful to find the inverse of a function?
7. How can you graph the inverse of a function without knowing what the equation for the inverse is?
8. How can you tell if the inverse of a function is also a function?
9. What is an inverse of a function?
10. What are defining characteristics of linear and nonlinear functions?
11. How can functions be used to model real world situations and problems?
12. How can different representations of functions shed light on their attributes?
13. How can we find a constant rate of change?

Activities

Algebra Lab –Analyzing Linear Graphs

Graphing Technology Lab; Graphing linear equations

Algebra Lab: Inductive and Deductive reasoning

Assessments
Formative (Throughout) Guided Practice Check your understanding H.O.T problems Spiral Review Additional examples Chapter 4 quizzes. Practice tests Standardized tests
Summative (End of Year) Multiple choice tests. Free response tests. Preparing for standardized test,pg 278,279 Standardized test practice- Pg 280,281. Exit slips.
Time Frame/Month   18 days
Resources/Websites(Primary/Secondary) **www.Emathinstruction.com** **www.khanacademy.com** **www.youtube.com/algebra1** **www.mathfishtank.comm** **sites.google.com**
Textbook Name (Chapters/Pages) **Glencoe –Algebra 1 Chapter 4: Pages- 212-277**

Curriculum Map

Name of Teacher:Ismath

Subject : Gr-8 Math   Month of January

Unit/Theme: Chapter.5: Linear Inequalities   **Chapter.6:Systems of Linear Equations and Inequalities**
Enduring Understandings: Students will be able to 1. Solve linear inequalities by using addition. 2. Solve linear inequalities by using subtraction. 3. use algebra tiles to model solving inequalities. 4. solve linear inequalities by using multiplication. 5. Solve linear inequalities by using division.

6. Solve linear inequalities involving more than one operation.
7. Solve linear inequalities involving distributive property.
8. Identify compound statements connected by the word and or as true or false.
9. Solve Compound inequalities containing the word *and* and graph their solution set.
10. Solve Compound inequalities containing the word *or* and graph their solution set.
11. Solve and graph absolute value inequalities (less than/ greater than).
12. Graph linear inequalities on the coordinate plane.
13. Solve inequalities by graphing.
14. use a graphing calculator to investigate the graphs of inequalities.
15. Determine the number of solutions of a system of linear equations has, if any.
16. Solve systems of linear equations by graphing.
17. Use a graphing calculator to solve a system of equations.
18. Solve systems of equations by using substitution.
19. Solve real-world problems involving systems of equations by using substitution.
20. Solve systems of equations by using elimination with addition.
21. Solve systems of equations by using elimination with subtraction.
22. Solve systems of equations by using elimination with multiplication.
23. Solve real-world problems involving systems of equations.
24. Determine the best method for solving systems of equations.
25. Apply systems of equations.
26. Use matrices to solve systems of equations.

Essential Questions:
1. How does solving equations apply to the real- world?
2. What is the real number system?
3. How do I justify the steps of simplification?
4. How can I use proportions to solve real-world problems?
5. How do I write an inverse variation function?
6. Why do I want to use matrices?
7. How do I solve one variable equations?
8. How do I isolate a variable?
9. How does solving inequalities apply to real-world?
10. How is solving inequalities the same and different from solving equations?
11. How can I use Venn Diagrams to Organize Information?
12. Where can I find compound inequalities in the real- world?
13. Which inequality symbol would you use to write the inequality?Explain.
14. What inequality can you write to explain any situation?
15. How can Algebra Skills be used in solving real world problems?
16. Can equations that appear to be different be equivalent?
17. Can I analyze, model, and solve mathematical situations using algebraic symbols? What kinds of relationships can proportions represent?
18. How do you represent relationships between quantities that are not equal?
19. Can inequalities that appear to be different be equivalent?
20. How can inequalities be used to represent relationships and solve problems?
21. How can you justify a solution path when solving equations and inequalities?
22. How do you solve absolute value equations and inequalities?
23. How is solving linear equations in one variable with numeric coefficients and solving linear equations in one variable with letter coefficients similar?
24. How can equations and inequalities be used to model, analyze and solve real-world and mathematical problems?

25. How can I solve an equation with variables on both sides? 26. How can I solve multiple step inequalities?	
Activities • Multi step inequalities partner coach • Direct Hit game • Number lines of inequalities task • Khan academy multi-step and compound inequalities • Khan academy solving absolute value inequalities	
Assessments	
Formative (Throughout) • Teacher observation • students sheets • Check for understanding using active participation strategies. • Exit slips/closure • Using formative assessment for differentiation.	
Summative (End of Year) • quizzes • Tests	
Time Frame/Month: CH.5 weeks Ch.6: 5weeks	
Resources/Websites(Primary/Secondary) www.bigideasmath.com www.khanacademy.com www.mathfishtank.com www.algebra1.com connectED.mcgraw-hill.com	
Textbook Name (Chapters/Pages): Glencoe Algebra 1 : McGraw HIll **Ch.5: Pages :282 to 331** **Ch.6: Pages: 332 to 387**	

Curriculum Map

Name of Teacher : Ismath

Subject : Gr-8 Math   Month of February 2020

Unit/Theme:CH: 7 Exponents and Exponential Functions   **CH: 8 Quadratic Expressions and Equations**

Enduring Understandings: Students will be able to

1. Multiply monomials using the properties of exponents.
2. Simplify expressions using the multiplication properties of exponents.
3. Divide monomials using the properties of exponents.
4. Simplify expressions containing negative and Zero exponents.
5. Evaluate and rewrite expressions involving expressions with rational exponents.
6. Express numbers in scientific notation.
7. Find products and quotients of numbers expressed in scientific notation.
8. Graph exponential functions.
9. Identify data that display exponential behavior.
10. Solve problems involving exponential growth.
11. Solve problems involving exponential decay.
12. Use properties of rational exponents to transform expressions for exponential functions into equivalent forms to solve problems.
13. Identify and generate geometric sequences.
14. Relate geometric sequences to exponential functions.
15. Calculate and interpret the average rate of change of an exponential function.
16. Use the recursive formula to list the terms in a sequence.
17. Write recursive formulas for arithmetic and geometric sequences.
18. Use algebra tiles to add and subtract polynomials.
19. Write polynomials in standard form.
20. Add and subtract polynomials.
21. Multiply a polynomial by a monomial.
22. Solve equations involving the products of monomials and polynomials.
23. Use algebra tiles to multiply polynomials.
24. Multiply binomials using FOIL method.
25. Multiply polynomials by using the distributive property.
26. Find squares of sums and differences.
27. Find the product of a sum and a difference.
28. Use algebra tiles to model using the distributive property to factor binomials.
29. Use the distributive property to factor polynomials.
30. Solve quadratic equations .
31. Factor trinomials.
32. Factor binomials that are the difference of the squares.
33. Use the difference of squares to solve equations.
34. Factor perfect square trinomials.
35. Solve equations involving perfect squares.

Essential Questions

1. **H**ow can you make good decisions?
2. What factors can affect good decision making?
3. How can you simplify expressions involving exponents?
4. What characterizes exponential growth and decay?
5. What are real world models of exponential growth and decay?
6. How can one differentiate an exponential model from a linear model given a real world set of data?
7. HOw can you represent numbers less than one using exponents?
8. How can you simplify expressions involving exponents?
9. What are the characteristics of exponential functions?
10. How are exponential functions used to solve real-world problems?
11. How are radical expressions represented?
12. What are the characteristics of square root functions?
13. How can you solve a radical equation?
14. How are radical equations used to solve real-world problems?
15. HOw do exponential functions model real-world problems and their solutions?
16. How do logarithmic functions model real-world problems and their solutions?
17. How are expressions involving exponents and algorithm related?
18. Why do we analyze quadratic functions?
19. How does solving for x in quadratic functions compare to solving for x in linear functions?
20. How can quadratic functions maximize profits and minimize costs?
21. Why does the degree of an equation reveal the number of solutions to the equation?
22. To what extent are solutions to quadratic equations real?
23. How are the real solutions of quadratic equations related to the graph of the related quadratic function?
24. How does understanding how to find the vertex of a quadratic function help in making decisions in real life applications?
25. What are the advantages of a quadratic function in a vertex form? In standard form?
26. How is any quadratic function related to the parent quadratic function?
27. How are rational and irrational numbers the same and the different?
28. What are monomials?
29. What are polynomials?
30. What are trinomials?
31. How do you find the degree of a monomial?
32. How do you find the degree of a polynomial?
33. How do we solve a polynomial?
34. What are the rules of an exponent?
35. What and how do we multiply /factor polynomial equations and inequalities?

Activities:

- **Algebra lab pages :464,478,501, 502,493.**

Assessments

Formative (Throughout)

Guided practice

Check your understanding

H.o.t problems

Spiral review

Additional examples

Chapter quizzes

Mid chapter quiz

Summative (End of Year)

Study guide and review

Practice test

Multiple choice tests (regents books)

Free response gets

Vocabulary tests

Extended response test

Standardized practice test

Time Frame/Month: 1 month

Resources/Websites(Primary/Secondary)
Estudent edition
Interactive classroom mc graw hill
Www.khanacademy.com
Www.barrens.com

Curriculum Map

Name of Teacher : Ismath

Subject : Gr-8 Math   Month of March-2020

Unit/Theme   **Chapter 9:Quadratic Functions and Equations**
Enduring Understandings : students will be able to understand   1. Complete the square to write perfect square trinomials.   2. Solve quadratic equations by completing the square.   3. Complete the square in a quadratic expression to find the maximum or minimum value of the related function.   4. Solve quadratic equations by using the quadratic formula.   5. Use the discriminant to determine the number of solutions to a quadratic equation.   6. Identify linear, quadratic, and exponential functions from given data.   7. Write equations that model data.   8. Use a graphing calculator to find an appropriate regression equation for a set of data.   9. Identify and graph step functions.   10. Identify and graph absolute value and piecewise-defined functions.   11. Use a graphing calculator to investigate piecewise-linear functions.   12. The vertex of a parabola will represent the maximum point of the function, which will help to understand maximum and minimum values in real-life situations.   13. Solutions that exist beyond the real number system.   14. All quadratic functions are a transformation on the parent function f(x)=X.X.   15. The domain and range of a quadratic function can be relative to a situation.   16. The graphs of quadratic functions always form parabola.   17. Quadratic equations may have 0,1,or 2 solutions.   18. The Use of inverse operations does not always enable one to solve an equation.   19. Models are necessary to investigate , explain and make mathematical predictions.   20. Equivalent mathematical relationships can be expressed in more than one way.   21. The operations of addition,subtraction, multiplication and division hold the same fundamental meanings no matter the domain to which they are applied.   22. Comparing mathematical patterns or relationships either algebraically or graphically helps us see that there are classes of relationships with common characteristics and helps us describe each member of the class.
Essential Questions

1. What characteristics of the graph of a quadratic function distinguish it from that of a linear function?
2. How do transformations, translations, and reflections affect the parent quadratic function?
3. How can I write an equation given a quadratic function graphed on a coordinate grid?
4. How can you find a solution to a quadratic equation algebraically and graphically?
5. How can you determine the axis of symmetry and the vertex of a parabola?
6. How would you recognize a situation when a quadratic equation should be solved by extracting the square root?
7. How can "completing the square" of a quadratic equation help find the solution to that equation?
8. Why would you want to use the quadratic formula to solve a quadratic equation?
9. How can I apply my knowledge of quadratic functions and solving quadratic equations to a tangible context (real-world problems)?
10. How are quadratic functions used to model, analyze and interpret mathematical relationships?
11. How do quadratic functions model real world problems and their solutions?
12. What are the differences between linear and quadratic equations?
13. What types of real world situations are modeled by quadratic relationships?
14. How are polynomial operations similar and different to whole number operations?
15. What do you mean by the degree of a polynomial?
16. Will learning to manipulate polynomials help you in solving real life problems?
17. Is it helpful to know how many terms in an expression?
18. Why is it important to write expressions in standard form?
19. Why is the F.O.I.L method so widely known and used?
20. Is it important to be able to factor quadratic expression?
21. How do you graph a quadratic function in vertex form?
22. How do you graph a quadratic function in standard form?
23. How do you graph a function in intercept form?
24. How do you graph a quadratic inequality or a system of inequalities that include quadratics?
25. How do you model real-world problems using quadratic functions?
26. How do you determine the parabola of best fit for quadratic data using regression?

Activities:
Algebra lab pages:

Assessments

Formative (Throughout)

- Guided practice

- Check your understanding

- H.o.t problems

- Spiral review

- Additional examples

- Chapter quizzes

- Mid chapter quiz

Summative (End of Year)

• Study guide and review
• Practice test
• Multiple choice tests (regents books)
• Free response gets
• Vocabulary tests
• Extended response test
• Standardized practice test

Time Frame/Month: 21 days
Resources/Websites(Primary/Secondary)   **Estudent edition**   **Interactive classroom mc graw hill**   **Www.khanacademy.com**   **Www.barrens.com**   **www.examgen.com**
Textbook Name (Chapters/Pages): Glencoe Mc graw hill- Algebra 1

Curriculum Map

Name of Teacher : Ismath

Subject : Gr-8 Math   Month of April-2020

Unit/Theme   **Chapter 9:Quadratic Functions and Equations (continuation)**   **Chapter 10: Radical Functions and Geometry.**
Enduring Understandings : students will be able to understand   1. All quadratic functions are a transformation on the parent function f(x)=X.X.   2. The domain and range of a quadratic function can be relative to a situation.   3. The graphs of quadratic functions always form parabola.   4. Quadratic equations may have 0,1,or 2 solutions.   5. The Use of inverse operations does not always enable one to solve an equation.   6. Models are necessary to investigate , explain and make mathematical predictions.   7. Equivalent mathematical relationships can be expressed in more than one way.   8. The operations of addition,subtraction, multiplication and division hold the same fundamental meanings no matter the domain to which they are applied.

9. Comparing mathematical patterns or relationships either algebraically or graphically helps us see that there are classes of relationships with common characteristics and helps us describe each member of the class.
10. Find the inverse of a quadratic function.
11. Create an inverse function by limiting the domain of the original function.
12. Graph and analyze dilations of radical functions.
13. Graph and analyze reflections and translations of radical functions.
14. Use a graph calculator to investigate the graph of square root functions.
15. Simplify radical expressions by using the product property of square roots.
16. Simplify radical expressions by using the quotient property of square roots.
17. Add and subtract radical expressions.
18. Multiply radical expressions.
19. Solve radical equations.
20. Solve radical equations with extraneous solutions.
21. Solve problems by using pythagorean theorem,
22. Determine whether a triangle is a right triangle.
23. Find trigonometric ratios of angles.
24. Use trigonometry to solve triangles.
25. Investigate distances on the coordinate plane.
26. Investigate trigonometric ratios.
27. Use formulas for length, slope and midpoint.

Essential Questions

1. How are quadratic functions used to model, analyze and interpret mathematical relationships?
2. How do quadratic functions model real world problems and their solutions?
3. Is it helpful to know how many terms in an expression?
4. Why is it important to write expressions in standard form?
5. Why is the F.O.I.L method so widely known and used?
6. Is it important to be able to factor quadratic expression?
7. How do you graph a quadratic function in vertex form?
8. How do you graph a quadratic function in standard form?
9. How do you graph a function in intercept form?
10. How do you graph a quadratic inequality or a system of inequalities that include quadratics?
11. How do you model real-world problems using quadratic functions?
12. How do you determine the parabola of best fit for quadratic data using regression?
13. How can you choose a model to represent a real world situation?
14. Why would you choose a square root function to model a set of data instead of a polynomial function?
15. How can trigonometry be useful when modeling?
16. What is a radical function?
17. How do power and radical functions model real-world problems and their solutions?
18. How are expressions involving radicals and exponents related?

19. To simplify the nth root of an expression, what must be true about the expression?
20. When you square each side of an equation, in the resulting equation equivalent to the original?
21. How are a function and its inverse function related?
22. How can radicals be simplified and combined?
23. How can a radical equation be solved?
24. How can real number operations be extended to radical expression and equations?
25. Why should we solve rational equations?
26. How are rational and irrational numbers the same and different?

Activities:

Algebra lab pages: 619,620,627,634,640,641,654,655.

Assessments

Formative (Throughout)

- Guided practice
- Check your understanding
- H.o.t problems
- Spiral review
- Additional examples
- Chapter quizzes
- Mid chapter quiz

Summative (End of Year)

- Study guide and review
- Practice test
- Multiple choice tests (regents books)
- Free response gets
- Vocabulary tests
- Extended response test
- Standardized practice test

Time Frame/Month: 16 days
Resources/Websites(Primary/Secondary) **Estudent edition** **Interactive classroom mc graw hill** **Www.khanacademy.com** **Www.barrens.com** **www.examgen.com**
Textbook Name (Chapters/Pages): Glencoe Mc graw hill- Algebra 1 **619 - 662.**

Curriculum Map

Name of Teacher : Ismath

Subject : Gr-8 Math   Month of May-2020

Unit/Theme **Chapter 11: Rational Functions and Equations.** **Chapter 12: statistics and probability.**
Enduring Understandings : students will be able to understand 1. Collecting data to investigate the relationship between volume and pressure. 2. Identify and use inverse variations. 3. Graph inverse variation. 4. Use graphing technology to investigate families of rational functions. 5. Identify excluded values. 6. Identify and use asymptotes to graph rational functions.

7. Identify values excluded from the domain of a rational expression.
8. Simplify rational expressions.
9. Use a graphing calculator to simplify rational expressions and verify solutions and excluded values.
10. Multiply rational expressions.
11. Divide rational expressions.
12. Divide a polynomial by a monomial.
13. Divide a polynomial by a binomial.
14. Adding and subtracting rational expressions with like denominators.
15. Add and subtract rational expressions with unlike denominators.
16. Simplify mixed expressions.
17. Simplify complex fractions.
18. Solve rational equations.
19. Use rational equations to solve problems.
20. Use graphing technology to solve rational equations.
21. Analyze data and represent situations involving inverse variation using tables, graphs, or algebraic methods.
22. Solve rational equations and eliminate extraneous roots.
23. Classify and analyze samples.
24. Classify and analyze studies.
25. Evaluate reports based on data published in the media.
26. Identify sample statistics and population parameters.
27. Analyze data sets using statistics.
28. Describe the shape of a distribution.
29. Use the shapes of distribution to select appropriate statistics.
30. Compare measures of central tendency

Essential Questions

1. How can simplifying mathematical expressions be useful?
2. Why should we solve rational equations?
3. What patterns and methods are being used?
4. Why is the material being studied and when will it be useful?
5. Which skills are appropriate and when are they used?
6. Are there skills that are useful across all topics?
7. When and why expressions are simplified?
8. How to combine like terms and its application?
9. How do you use order of operations?
10. How to simplify expressions?
11. How to solve equations?
12. HOw to simplify expressions using the four basic operations?
13. How to translate words into symbols?
14. How to solve word problems using one variable and the 5- step method?
15. Are rational expressions and its simplified forms equivalent?

16. How can you use theoretical and experimental probabilities to make predictions and conclusions based on data collection?
17. What mathematical tools can be used to analyze games of chance?
18. How are statistics and probability used in the real world?
19. What criteria would you use to determine whether a survey is biased?
20. What is the difference between a combination and a permutation?
21. When Are combination and permutation used in the real world?
22. What is a mean absolute deviation?
23. What does the word independent mean?
24. What is permutation?
25. What is a statistic?
26. What is the population?
27. What is theoretical probability?
28. What is a random variable?
29. What are some ways in which you organize data?
30. Is it possible to organize data in more than one way?
31. What factors do you consider when you are thinking of ways in which you can organize data?
32. What are histograms?

Activities:

Algebra lab pages: 675, 683, 697, 733, 734.

Assessments

Formative (Throughout)

● Guided practice

● Check your understanding

● H.o.t problems

● Spiral review

● Additional examples

● Chapter quizzes

● Mid chapter quiz

Summative (End of Year)

● Study guide and review

● Practice test

● Multiple choice tests (regents books)

- Free response gets
- Vocabulary tests
- Extended response test
- Standardized practice test

Time Frame/Month: 22 days

Resources/Websites(Primary/Secondary)

Estudent edition

Interactive classroom mc graw hill

Www.khanacademy.com

Www.barrens.com

www.examgen.com

Textbook Name (Chapters/Pages): Glencoe Mc graw hill- Algebra 1

Ch: 11:-666-734.

Ch: 12:- 749-809.