# *Pre-Unit CP Only Pre-Algebra 2 Skills from Algebra 1 

Content Area: Mathematics
Course(s): Algebra 2 CP
Time Period: Marking Period 1
Length:
Status:
2 Blocks
Published

## Transfer Skills

In this pre-unit students will spend time recalling Algebra 1 skills that will help them through the course.

Instructional Notes

- This will give the teacher a good idea of how to move forward in following units.
- Honors should move forward with Unit 1 after quick review of Summer Assignment.
- The use of a graphing calculator is encouraged for students to check their work when graphing equations.

BLUE $=9 / 10$ Only $* *$

## Enduring Understandings

There are several strategies to solve linear equations.

Simplifying radicals allows us to take a complex situation and make it simple.

A graph offers more than just plotted points.

## Essential Questions

[^0]How do we describe key values from a graph by only using a graphing calculator?

Why does simplifying radicals help to solve problems?

## Content

Vocabulary:

- Perfect Square
- Radicals
- Polynomials
- Key Characteristics of Quadratic and Linear Functions
- Linear Equations
- Solutions
- Slope/Average Rate of Change


## Skills

- Simplify radicals when given perfect squares and non-perfect squares.
- Solve multi step equations (adding, subtracting, multiplying, dividing, distributing)
- Factor basic polynomials
- Use the graphing calculator to determine key values, and describe graphs of quadratics and linear functions.
- Calculate Average rate of change
- Graph linear equations using concepts of slope and y-intercepts.
- Solve systems of linear equations using substitution, elimination and graphing.


## Possible Pre-Unit Map

## 2-3 Blocks ONLY

1st Day: Simplify Radicals, Solving multi-step equations, calculating slope
2nd Day: Factor Binomials using a GCF, Difference of perfect squares, quadratic trinomials
3rd Day: Solve systems of linear equations using substitution, elimination AND Graphing

## Resources

NJGPA Practice Test
https://nj.mypearsonsupport.com/practice-tests/njgpa-math/
NJSLA Practice Test*
https://nj/mypearsonsupport.com/practice-tests/math/
NJDOE Model Curriculum
www.state.nj.us/education/modelcurriculum/math/
Teacher Resources by Standard
www.illustrativemathematics.org
illuminations.nctm.org/
www.pbslearningmedia.org/
Online Teaching Websites
www.khanacademy.org
www.youtube.com/user/bullcleo1

## Assessments

Quiz
Formative: Other Evidence: Other: Quiz
Unit Topics

## Standards

NJSLS 2016

## Algebra

## Creating Equations

## A-CED A. Create equations that describe numbers or relationships

1. Create equations and inequalities in one variable and use them to solve problems. Include equations arising
from linear and quadratic functions, and simple rational and exponential functions.

## Reasoning with Equations and Inequalities

## A -REI B. Solve equations and inequalities in one variable

3. Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

## Seeing Structure in Expressions

## A-SSE B. Write expressions in equivalent forms to solve problems

3. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.
a. Factor a quadratic expression to reveal the zeros of the function it defines.

## Functions

## Building Functions

## F-BF B. Interpret functions that arise in applications in terms of the context

4. For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.
5. Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function $h(n)$ gives the number of person-hours it takes to assemble $n$ engines in a factory, then the positive integers would be an appropriate domain for the function.
6. Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.

## Mathematical Practice

## 1 Make sense of problems and persevere in solving them.

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course
if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

| MA.K-12.1 | Make sense of problems and persevere in solving them. |
| :--- | :--- |
| MA.A-CED | Creating Equations |
| MA.A-CED.A | Create equations that describe numbers or relationships |
| MA.A-CED.A.1 | Create equations and inequalities in one variable and use them to solve problems. |
| MA.A-REI | Reasoning with Equations and Inequalities |
| MA.A-REI.B | Solve equations and inequalities in one variable |
| MA.A-REI.B. 3 | Solve linear equations and inequalities in one variable, including equations with <br> coefficients represented by letters. |
| MA.A-REI.C.6 | Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing <br> on pairs of linear equations in two variables. |
| MA.A-REI.D | Seeing Structure in Expressions <br> MA.A-SSE |
| MA.SSE expressions in equivalent forms to solve problems |  |


[^0]:    What are the correct steps in solving a multiple step equations?

