

Richmond Public Schools
Department of Curriculum and Instruction
Curriculum Pacing And Resource Guide – Unit Plan



Course Title/ Course #: Algebra 1

Unit Title/ Marking Period # (MP#2): Functions: X and Y Intercepts

Start day:

Meetings (Length of Unit): 4

<i>Desired Results ~ What will students be learning?</i>
<u>Standards of Learning/ Standards</u>
A.7d The student will investigate and analyze function (linear and quadratic) families and their characteristics both algebraically and graphically, including d) x- and y-intercepts
<u>Essential Understandings/ Big Ideas</u>
An object x in the domain of f is an x-intercept or a zero of a function f if and only if $f(x) = 0$.
<u>Key Essential Skills and Knowledge</u>
The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to • Identify the domain, range, zeros, and intercepts of a function presented algebraically or graphically.
<u>Vocabulary</u>
Linear Equation X-Intercept Y-Intercept Zero

Quadratic Equation

Assessment Evidence ~ What is evidence of mastery? What did the students master & what are they missing?

Assessment/ Evidence

Mulligan Checkpoint A.7

PowerSchool

Learning Plan ~ What are the strategies and activities you plan to use?

Learning Experiences/ Best Practice

Create a foldable for vocabulary

- Finding the x-intercept algebraically vs. graphically with linear and quadratic equations
- Finding the y-intercept algebraically vs. graphically with linear and quadratic equations
 - Include graphs and equations

All Things Algebra → Relations and Functions

- Functions Find Someone Who (review of A.7 material including A.7d)

Technology Integrations

Gizmo

Khan Academy

Virtual Nerd

Resources

Text

Virginia Glencoe, Algebra I, ©2012, Carter, et al,
McGraw-Hill School Education Group, page(s) 154 - 159

Coach book, Virginia edition, page(s) 175 - 181

Mulligan Math in Minutes A.7

Technology

- Gizmo
 - [Linear Functions](#)
 - [Points, Lines, and Equations](#)
 - [Slope-Intercept form of a Line – Activity B](#)

- [Khan Academy](#)
 - [Functions](#)

- [Virtual Nerd](#)
 - [Relations & Functions](#)

Virginia Department of Education

[Functions 2](#)

[Factoring for Zeros](#)

Cross Curricular Connection

Sports:

- When a ball is thrown into the air it creates a curve. Where the ball hits the ground is an x-intercept and the height of the person throwing the ball is a y-intercept.

History/Economics:

- In order to calculate how many of each item should be sold to make a profit, a linear equation can be used. Where the linear equation hits the y-axis (intercept) it gives the number of one object to be sold if none of the other sells; vice versa for x-intercept.

**Any situation where a linear equation or quadratic equation can be used to model the situation, an x- and y- intercept can be found and used in context.