Chapter 3: Radicals and Exponents

Introduction

In the first chapter, we dealt with functions that could be sketched as a straight line. We observed how they intersected with each other, and how we can use algebra to describe those intersections.

In the second chapter, we learned about polynomial functions, namely quadratics, and how they can be graphed. We spent a great deal of time finding roots of a quadratic, and even learned about imaginary numbers.

In this chapter, we will learn about the inverse of a quadratic – a radical. We will learn how to play with these kinds of numbers, what *kinds* of numbers they can be, and how to express them in various ways.

Try this warm up to see if you can get all of these facts right.

a) $3^2 =$

b) $(-3)^2 =$

c) If $x^2 = 9$, then $x =$

d) $\sqrt{9} =$

e) $\sqrt{x^2} =$

f) $(\sqrt{x})^2 =$

1. Relations, Functions, One-to-one

2. Inverse Functions

3. The Radical Function

4. Number Systems

5. Manipulating Radicals

6. Factoring

7. Exponential Notation

Exercises

7.1. a problem

Selected Solutions.

Section 7 Solutions

7.1. a solution