Radical Functions

This section is an exploration of radical functions, their uses and their mechanics.

By the end of this chapter students should be able to:

- Determine the domain of a given radical function.
- Understand the fundamental difference between even and odd radicals.
- Understand and use radicals as an inverse to a polynomial term.

We aim to answer the following questions in this section:

- What is a radical function, and why do they appear?
- What role do inverse functions play in models?
- How do you remove a radical from an equality and what consequences might occur as a result?

In general we will need to be able to accomplish the following mechanical skills involving radicals:

- Simplify numerical radicals
- Identify types of radicands so we know when we can, or can't, simplify.
- Remove radicals from an equation in order to solve for a variable inside the radical.
- Identify the fundamental differences between even and odd radicals.
- Understand when we need to use the dreaded $\pm$ and when we don't.
- Understand radicals as *functions* versus *operations*

Learning outcomes: