**PC11**

**Defined and Undefined Radicals**

* A defined radical is a radical that exists in the universe of real numbers.
* A radical with an odd index is always defined.
* A radical with an even index may or may not be defined. To determine whether a radical with an even index is defined, one must do algebra and solve and inequality:

Example1: Determine when is the given radical defined. Justify your answer.

* An undefined radical does not exist in the universe of real numbers.
* A radical with an odd index is never undefined.
* A radical with an even degree may or may not be undefined. To determine whether a radical with an even degree is undefined, one must do algebra to solve an inequality:

Example 2: Determine when is the given radical undefined. Justify your answer.

Example: