|  |  |
| --- | --- |
| **Radical Equations (7.6)** | **Math 098** |

Definition: A radical equation contains \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Method: The principle of powers

If , then  for any exponent *n*.

Notice the “if-then” relationship here. For example, examine 

Warning: We must check for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solve  (solve algebraically and graphically)

Method: To solve an equation with a radical term

1. Isolate the radical term on one side of the equation.
2. Use the principle of powers and solve the resulting equation.
3. Check any possible solution in the original equation.

Solve   
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  


Method: Solve an equation with two or more radical terms

1. Isolate one of the radical terms.
2. Use the principle of powers.
3. If a radical remains, perform steps (1.) and (2.) again.
4. Solve the resulting equation.
5. Check possible solutions in the original equation.

Solve

1. 
2. 

For the given functions, find the values of *t*.

1. If , solve 
2. If , solve 