

$$y = \sqrt{x}$$

$$x^2 + y^2 = 110$$

Solution(s):

$$x^2 + (\sqrt{x})^2 = 110$$

$$x^2 + x = 110$$

$$x^2 + x - 110 = 0$$

$$(x+11)(x-10) = 0$$

$$\begin{array}{r|l} x+11=0 & x-10=0 \\ -11 & +10 \quad +10 \\ \hline x=-11 & x=10 \end{array}$$

$$(x, y) \in (10, \sqrt{10})$$

$$y = \sqrt{x}$$

$$\text{Let } x = -11$$

$$y = \sqrt{-11}$$

No real solution  
when  $x = -11$

$$\text{Let } x = 10$$

$$y = \sqrt{10}$$

Then  $(10, \sqrt{10})$   
is a solution.