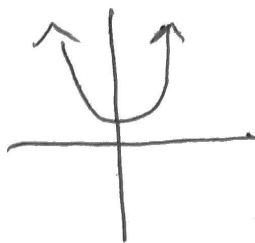


LTAA7b

How do I find roots?

ex 1: Find roots



$$y = x^2 + 16$$

$$0 = x^2 + 16$$

$$\begin{array}{r} -16 \quad -16 \\ \hline \sqrt{-16} = \sqrt{x^2} \end{array}$$

$$\sqrt{-1 \cdot 16}$$

$$\sqrt{-1} \cdot \sqrt{16} = x$$

$$i \sqrt{16} = x$$

$$\underline{4i, -4i} \text{ or } \underline{\pm 4i} = x$$

ex 2:  $y = x^2 + 225$

$$0 = x^2 + 225$$

$$\sqrt{-225} = \sqrt{x^2}$$

$$i \sqrt{225} = x$$

$$\boxed{x = \pm 15i \text{ or } 15i, -15i}$$

$$x^2 + 50 = 0$$

$$x^2 = -50$$

$$x = i\sqrt{50}$$

$$= i\sqrt{2 \cdot 25}$$

$$= i\sqrt{2} \cdot \sqrt{25}$$

$$= \pm 5i\sqrt{2}$$

Perfect Square

1  
4  
9  
16  
25  
36  
49  
64  
81  
100  
121  
144  
169  
196