Math 1513 - College Algebra

Quiz #8 - 2018.09.12

Solutions

Solve the following equation:

$$\sqrt{x+7} - \sqrt{x} = 1$$

First we add $\sqrt{x}$ to both sides:

$$\sqrt{x+7} = 1 + \sqrt{x}$$

Then we square both sides:

$$(\sqrt{x+7})^2 = (1+\sqrt{x})^2$$

which gives:

$$x + 7 = 1 + 2\sqrt{x} + x$$

Simplifying:

$$6 = 2\sqrt{x}$$

or

$$3 = \sqrt{x}$$

Which finally gives us, after squaring:

$$x = 9$$