

Week 12 Math 170

Problem of the week

Solve for x

$$(\sqrt[3]{5})^{\sqrt{\sqrt{x}+71}} = 125$$

$$5^{\frac{1}{3}(\sqrt{\sqrt{x}+71})} = 5^3$$

$$\frac{1}{3}(\sqrt{\sqrt{x}+71}) = 3$$

$$(\sqrt{\sqrt{x}+71})^2 = (9)^2$$

$$\begin{array}{r} \sqrt{x}+71 = 81 \\ -71 \quad -71 \\ \hline \end{array}$$

$$(\sqrt{x})^2 = (10)^2$$

$$x = 100$$