

1.78  
61

$$\left[ 3(3^{\sqrt{x+2}})^{\frac{1}{2\sqrt{x}}} \right]^{\frac{2}{\sqrt{x}-1}} = \frac{3}{\sqrt[10]{3}}$$

$$\left( 3 + \frac{\sqrt{x+2}}{2\sqrt{x}} \right)^{\frac{2}{\sqrt{x}-1}} = 3^{1-\frac{1}{10}}$$

$$3^{\frac{2}{\sqrt{x}-1}} + \frac{2(\sqrt{x+2})}{2\sqrt{x}(\sqrt{x}-1)} = 3^{\frac{9}{10}}$$

$$\frac{2}{\sqrt{x}-1} + \frac{2\sqrt{x+2}}{2\sqrt{x}(\sqrt{x}-1)} = \frac{9}{10}$$

$$\frac{2\sqrt{x+2} + 2\sqrt{x+2}}{2\sqrt{x}(\sqrt{x}-1)} = \frac{9}{10}$$

$$\frac{4\sqrt{x+2}}{2\sqrt{x}(\sqrt{x}-1)} = \frac{9}{10}$$

$$60\sqrt{x+2} = 18x - 18\sqrt{x} \quad | :6$$

$$3x - 13\sqrt{x} - 10 = 0$$

$$3t^2 - 13t - 10 = 0 \quad \sqrt{x} = t$$

$$t = 5 \rightarrow \sqrt{x} = 5 \rightarrow x = 25$$

$$t = -\frac{2}{3} \rightarrow \sqrt{x} = -\frac{2}{3} \rightarrow \emptyset$$