

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

Solve it?

Answer 1

$$\text{Answer: } \sqrt{7x} + 1 = \sqrt{7x + 1}$$

First isolate a square root on the left side:

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

Now, delete the radical on the left side, Raise both sides squarely:

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

Thus:

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

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

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

Find the radical remainder by isolating a radical on the left side again:

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

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

Now, delete the radical on the left side, Raise both sides squarely:

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

Solving, We have:

$$4(7x + 1) = 4$$

$$4(7x + 1) = 4$$

$$28x + 4 = 4$$

$$28x = 0$$

$$28x = 0$$

$x = 0$ or type unknown

$\boxed{x = 0}$ type unknown

Confirm that the solution is correct

Statement equation

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

*Replaces "0" in "x"

$\sqrt{7 \cdot 0} = \sqrt{7 \cdot 0 + 1}$

$\sqrt{0} = \sqrt{0+1}$ type unknown

$0 = \sqrt{1}$ type unknown

$0 = 1$

Solution:

$\boxed{0 = 0}$ (TRUE)

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