

Subtract 7 and then square both sides: $(\sqrt{5x-1})^2 = (5x-7)^2$

Simplify and multiply: $5x - 1 = 25x^2 - 70x + 49$

Subtract $5x - 1$ from both sides: $0 = 25x^2 - 75x + 50$

Divide by 25, factor and solve: $0 = (x-1)(x-2)$, so $x = 1$ and $x = 2$

Check $x = 1$: $7 + \sqrt{5(1) - 1} = 5(1)$? $7 + 2 \neq 5$ extraneous solution

Check $x = 2$: $7 + \sqrt{5(2) - 1} = 5(2)$? $7 + 3 = 10$ TRUE