Solve $x^2+4x=1$ using $x=-2+\sqrt{5}, -2-\sqrt{5}$

If $ax^2+bx+c=0$, then $x=\frac{-b\pm\sqrt{b^2-4ac}}{2a}$

Solve $9x^2+6x-4=0$

$x=-\frac{1}{3}+\frac{\sqrt{5}}{3}, -\frac{1}{3}-\frac{\sqrt{5}}{3}$

$\sqrt{4x-7} = 5$

$(\sqrt{4x-7})^2 = 5^2$

$4x - 7 = 25$

$4x = 32$

$x = 8$

$\sqrt[3]{5x+7} = 2$

$x = \frac{1}{5}$

$\sqrt[3]{5x+7} = -2$

$x = -3$

$\sqrt{5x-1} + 7 = 3$

$-7 \quad -7$

$\sqrt{5x-1} = -4$

$(\sqrt{5x-1})^2 = (-4)^2$

$5x - 1 = 16$

$5x = 17$

$x = \frac{17}{5}$

No solution

Check

$\sqrt{5(\frac{17}{5})-1} + 7 \stackrel{?}{=} 3$

$\sqrt{17-1} + 7 \stackrel{?}{=} 3$

$11 \neq 3$

no solution

$$t+5=\sqrt{t+7}$$

$$\vdots$$

$$t=-3,-6$$

(-1) $\sqrt{10x+5}-1=2x$ (-1) $x=-\frac{1}{2}$

$\sqrt{10x+5}=2x+1$

$(\sqrt{10x+5})^2=(2x+1)^2$

$10x+5=4x^2+4x+1$

2 solutions

$0=4x^2-6x-4$

$0=2(2x^2-3x-2)$

$0=2(2x+1)(x-2)$

$x=2$

$2x+1=0$

$2x=-1$

$x=-\frac{1}{2}$

A, B, C