

Solve $x^2 + 4x = 1$ using $\text{If } ax^2 + bx + c = 0,$
 $x = -2 + \sqrt{5}, -2 - \sqrt{5}$ then
 $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

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

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

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

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

$$4x-7 = 25$$

$$4x = 32$$

$$x = 8$$

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

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

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

$$\vdots$$
$$x = -3$$

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

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

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

No solution

$$5x - 1 = 16$$

$$5x = 17$$

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

no solution

Check

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

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

$$11 \neq 3$$

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

⋮

$$t = -3, -6$$

(-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

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

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

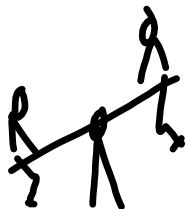
$$0 = 2(2x + 1)(x - 2)$$

$$2x + 1 = 0$$

$$2x = -1$$

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

$$x = 2$$



A, B, C