

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

$$2x^2 - 4x - 1 = 0$$

$$a = 2 \quad b = -4 \quad c = -1$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

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

$$x = \frac{4 \pm \sqrt{16 + 8}}{4}$$

$$x = \frac{4 \pm \sqrt{24}}{4}$$

$$x = \frac{4 \pm 2\sqrt{6}}{4}$$

$$x = \frac{2(2 \pm \sqrt{6})}{4}$$

$$x = \frac{2 \pm \sqrt{6}}{2}$$

$$\left\{ \frac{2 \pm \sqrt{6}}{2} \right\}$$