

$$5^{x^2+1} = 57$$

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$$\ln(5^{x^2+1}) = \ln(57)$$

$$\frac{(x^2+1) \ln(5)}{\ln(5)} = \frac{\ln(57)}{\ln(5)}$$

$$x^2+1 = \frac{\ln(57)}{\ln(5)}$$

$$x^2 = \frac{\ln(57)}{\ln(5)} - 1$$

$$\sqrt{x^2} = \sqrt{\frac{\ln(57)}{\ln(5)} - 1}$$

$$x = \pm \sqrt{\frac{\ln(57)}{\ln(5)} - 1} = \pm 1.22967$$