

Answer on Question #76625 - Math / Algebra - for confirmation.

$$\log_2(x + 1) = 16 \log_{(x+1)} 2;$$

$$x + 1 > 0, \quad x + 1 \neq 1$$

$$x > -1, \quad x \neq 0$$

$$\log_2(x + 1) = 16 \frac{1}{\log_2(x + 1)};$$

Let $y = \log_2(x + 1)$, then

$$y - 16 \frac{1}{y} = 0;$$

$$\frac{y^2 - 16}{y} = 0 \Rightarrow y \neq 0 \text{ and } y^2 - 16 = 0;$$

$$y^2 = 16;$$

$$y_{1,2} = \pm 4;$$

$$\log_2(x + 1) = 4 \text{ and } \log_2(x + 1) = -4;$$

$$x + 1 = 2^4 \text{ and } x + 1 = 2^{-4};$$

$$x = 2^4 - 1 \text{ and } x = 2^{-4} - 1;$$

$$x = 16 - 1 \text{ and } x = \frac{1}{16} - 1;$$

$$x_1 = 15, x_2 = -\frac{15}{16};$$

$$x_{1,2} > -1, x_{1,2} \neq 0.$$

$$\text{Answer: } x_1 = 15, x_2 = -\frac{15}{16}.$$

Answer provided by <https://www.AssignmentExpert.com>