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$$(x + 1) \cdot \ln(2) = \ln(2^{(x+1)}) = \ln(3^x)$$

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Leaving us with: $\ln(2) = x \cdot \ln(3) - x \cdot \ln(2) = x \cdot (\ln(3) - \ln(2))$

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$$x = \frac{\ln(2)}{(\ln(3) - \ln(2))}$$

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Conclusion: The solution to $2^{(x+1)} = 3^x$ is: $x = \frac{\ln(2)}{(\ln(3) - \ln(2))} \approx 1.7095$