

Exponential Diophantine Equations

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Exponential Diophantine Equations are a class of mathematical problems that seek integer solutions for equations where variables can appear as exponents. These challenging equations combine principles from both exponential functions and Diophantine analysis, making them a central topic in number theory. Solutions often require advanced techniques, and the determination of existence and uniqueness of integer solutions is a key focus for researchers and enthusiasts alike.

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Exponential Diophantine Equations

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Intro

Question

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take the log of both sides

move this exponent to the front

set the exponents equal to each other

add 8 to both sides

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It is mathematically defined as the limit of $(1 + 1/n)^n$ as $n \rightarrow \infty$...

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