

**PROPOSED PROBLEM TO MATHEMATICS MAGAZINE
A DIOPHANTINE EQUATION**

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Find the **integer solutions** of the **diophantine** equation $x^3 + x^2 + x + 1 = y^3$.

Generalization. Let $k \geq 1$ be a natural number. Find the **integer solutions** of the equation

$$x^3 + x^2 + x + 1 = y^{3k}.$$

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