

Two neat facts about equations

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One neat fact that I discovered is that the equation $x + x = x + x$ is an instance of both the commutative property of addition and the reflexive property of identity. Another, even more neat fact that I discovered is that the equation $x + (x + x) = (x + x) + x$ is an instance of both the associative property of addition and the commutative property of addition. Now, you might be wondering if there is an equation which is an instance of both the associative property of addition and the reflexive property of identity. And the answer is no, but the proof is left to the reader.