$1 = 2$?

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a	$=$	b	Let a = b
a^2	$=$	ab	Multiply a by Both Sides
$a^2 - b^2$	$=$	$ab - b^2$	Subtract b^2 by Both Sides
$(a+b)(a-b)$	$=$	$b(a-b)$	Factor out $(a-b)$ on Both Sides
$a+b$	$=$	b	$(a-b)$ Cancels on Both Sides
$b+b$	$=$	b	Substitute a for b
$2b$	$=$	b	Combine Like Terms
2	$=$	1	Divide by b on Both Sides