Proof 2=1

Given a = b <> 0

a = b	
a * a = b * a	(Multiply both sides by a)
a^2 = ab	(simplify)
a^2 – b^2 = ab – b^2	(subtract b^2 from both sides)
(a+b) (a-b) = b(a-b)	(factor)
(a+b) ~~(a-b)~~ = b~~(a-b)~~	(divide by a-b)
(a+b) = b	(simplify)
b + b = b	(replace a with b from Given)
2b = b	(simplify)
2~~b~~ = 1~~b~~	(divide by b (ok since b <> 0))
2 = 1	

Divide by (a-b)