2003 Disorte Mathematics

Short solution

Extended Euclid:

0	1	798	
1	0	567	
-1	1	231	1
3	-2	105	2
-7	5	21	2
38	-27	0	5

$$x = 3.5 - 27.k = 15 - 27.k$$
, $y = 3.(-7) + 38.k = 38.k - 21$.

$$2c \not \equiv 2.(-7) \equiv -14 \equiv 24 \pmod{38}$$
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