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Q. Find x where $0 < x < 1386$

① x is even $x \equiv 0 \pmod 2$

② $x \equiv 2 \pmod 9$

③ $x \equiv 1 \pmod{11}$

④ $x \equiv 4 \pmod 7$

gcd(of all #'s of n) = 1

$m_1 = 693$

$693x = 1$ in Z_2

$1x = 1$ in Z_2

$x_1 =$ x_1 = 1 and not 3 (you live inside Z_2). It will not affect the final ANSWER since c_1 = 0

$m_2 = 154$

$154x = 1$ in Z_9

$1x = 1$ in Z_9

$x_2 =$ again x_2 = 1 in Z_9

$m_3 = 126$

$126x = 1$ in Z_{11}

$5x = 1$ in Z_{11}

$x_3 = 9$

$m_4 = 198$

$198x = 1 \quad \text{in } \mathbb{Z}_7$

$2x = 1 \quad \text{in } \mathbb{Z}_7$

$x_4 = 4$

$$X = m_1 x_1 c_1 + m_2 x_2 c_2 + m_3 x_3 c_3 + m_4 x_4 c_4 \pmod{1386}$$

$$= (2 \times 154 \times 1) + (1 \times 126 \times 9) + (198 \times 4 \times 4) \pmod{1386}$$

$$= 452$$