

1] 次の一次合同式を解け.

(1) $7x \equiv 1 \pmod{9}$

(4) $32x \equiv 13 \pmod{45}$

(2) $9x \equiv 7 \pmod{13}$

(5) $25x \equiv 9 \pmod{37}$

(3) $13x \equiv 3 \pmod{27}$

(6) $64x \equiv 22 \pmod{91}$

2] 次の一次合同式を解け.

(1) $2x \equiv 5 \pmod{4}$

(4) $21x \equiv 15 \pmod{33}$

(2) $9x \equiv 4 \pmod{15}$

(5) $27x \equiv 18 \pmod{45}$

(3) $8x \equiv 6 \pmod{10}$

(6) $105x \equiv 7 \pmod{133}$

3] 次の連立合同式を解け.

(1)
$$\begin{cases} x \equiv 3 \pmod{5} \\ x \equiv -4 \pmod{9} \end{cases}$$

(5)
$$\begin{cases} x \equiv -1 \pmod{3} \\ x \equiv 3 \pmod{4} \\ x \equiv 5 \pmod{7} \end{cases}$$

(2)
$$\begin{cases} x \equiv -6 \pmod{8} \\ x \equiv 3 \pmod{13} \end{cases}$$

(6)
$$\begin{cases} x \equiv 3 \pmod{4} \\ x \equiv -2 \pmod{5} \\ x \equiv -5 \pmod{9} \end{cases}$$

(3)
$$\begin{cases} x \equiv 4 \pmod{7} \\ x \equiv 15 \pmod{24} \end{cases}$$

(4)
$$\begin{cases} x \equiv 1 \pmod{101} \\ x \equiv 2 \pmod{103} \end{cases}$$

¹解答:

1] (1) $x \equiv 4 \pmod{9}$ (2) $x \equiv 8 \pmod{13}$ (3) $x \equiv 21 \pmod{27}$ (4) $x \equiv 44 \pmod{45}$ (5) $x \equiv 27 \pmod{37}$ (6) $x \equiv 43 \pmod{91}$

2] (1) 解無し (2) 解無し (3) $x \equiv 2, 7 \pmod{10}$ (4) $x \equiv 7, 18, 29 \pmod{33}$ (5) $x \equiv 4, 9, 14, 19, 24, 29, 34, 39, 44 \pmod{45}$ (6) $x \equiv 14, 33, 52, 71, 90, 109, 128 \pmod{133}$

3] (1) $x \equiv 23 \pmod{45}$ (2) $x \equiv 42 \pmod{104}$ (3) $x \equiv 39 \pmod{168}$ (4) $x \equiv 5152 \pmod{10403}$
 (5) $x \equiv 47 \pmod{84}$ (6) $x \equiv 103 \pmod{180}$