III.1-§.

159.Barcha butun sonlar 1 moduli bo'yicha o'zaro taqqoslanuvchi. **160**. Masalan 9,17 lar. **161**.$a), b)$. **165.** $x = 2 + 10t,\ t \in Z, x = 2, 12, 22, -8, -18.$ **166.** $a).x \equiv 0(mod3),\ x = 3t, t \in Z.$ b).$x \equiv 1(mod2), x = 1 + 2t,\ t \in Z.$ **167.** $a).m =$ 1,2,3,4,6,12. b).$m = 1, 2, p, 2p.$ **168**. $m =$ 1,2,4,8. **169.** Misol uchun $1, 11, 101,$ $1001, \ldots$. **170.** a), b), c). **171**. $\boldsymbol{x = 2 + 5t_1},\ t_1$ - ixtiyoriy butun son. **181.** 1).8 va 9. 2). 0 va 7.

III.2-§.

195. $x \equiv 0,1,2, \ldots, 9(mod10)$. **196.** 1).$1, 2, 3, 4,$ ... , 9 lar 9 moduli bo`yicha eng kichik musbat chegirmalarining to`la sistemasi. $-9, -8, -7, \ldots, -2, -1$ lar 9 moduli bo`yicha eng katta manfiy chegirmalarning to`la sistemasi; $0; \pm1;\ \pm2;\ \pm3;\ \pm4$ lar 9 moduli bo`yicha absolyut qiymati jihatidan eng kichik chegirmalarining to`la sistemasi. Chegirmalarning keltirilgan sistemalar $1, 2, 4,\ 5,7,8;\ \ c - 8, -7, -5, -4, -2, -1;\ \pm1;\ \pm2;\ \ \pm4$ lardan iborat.

2). Chegirmalarining to`la sistemalari $1,2,3,4, \ldots, 8; -8, -7, -6, -5, \ldots, -2, -1;\ \ \pm1;\ \pm2;\ \pm3;\ \pm4$. Chegirmalarning keltirilgan sistemalari $1, 3, 5, 7;\ -1, -3, -5, -7;\ \pm1;\ \pm3$ lardan iborat.

3). Chegirmalarining to`la sistemalari:

$1, 2, 3, 4, \ldots, 13; -13, -12, -11, \ldots, -2, -1;\ \ 0, \pm1, \pm2, \pm3, \pm4, \pm5, \pm6.$

Chegirmalarning keltirilgan sistemalari:

$1, 2, 3, 4, \ldots, 12;\ -12, -11, \ldots, -2, -1;\ \ \pm1,\ \pm2,\ \pm3,\ \pm4,\ \pm5,\ \pm6.$

4).Chegirmalarining to`la sistemalari:

$1, 2, 3, 4, \ldots, 12;\ \ -12, -11, -10, \ldots, -2, -1;\ \ \pm1, \pm2, \pm3, \pm4, \pm5, \pm6.$

Chegirmalarning keltirilgan sistemalari:

$1, 5, 7, 11;\ \ -1, -5, -7, -11;\ \pm1;\ \pm5.$

5). Chegirmalarining to`la sistemalari:

$1, 2, 3, 4, 5, 6, 7; -7, -6, -5, -4, -3, -2, -1;\ \ 0, \pm1, \pm2, \pm3.$

Chegirmalarning keltirilgan sistemalari:

$$1,2,3,4,5,6; \quad -7\ -6,-5,-4,-3,-2,-1; \quad \pm1,\pm2,\pm3.$$

6).Chegirmalarining to`la sistemalari:

$1,2,3,4,\dots,10; \qquad -10,-9,-8,\dots,-2,-1; \qquad \pm1,\ \pm2,\ \pm3,\ \pm4,\ \pm5,$

Chegirmalarning keltirilgan sistemalari:

$$1,3,7,9; \quad -9,-7,-3,-1; \quad \pm1,\ \pm3.$$

197. $x = 10q + r, 0 \le r < 10$ yoki $x = 10q,\ x = 10q + 1,\ x = 10q + 2,\ x = 10q + 3,\quad x = 10q + 4,\quad x = 10q + 5\quad x = 10q + 6, x = 10q + 7, x = 10q + 8,\ x = 10q + 9.$

198. *a).*$x \equiv 1,3,7,9(mod10)$. *b).* $x \equiv 2,4,6,8(mod10)$. c). $x \equiv 5(mod10)$.d) . $x \equiv 0(mod10)$. **200.** Masalan:

$1,2,3,4,5,6,7,8,9,\ 10; -10,-9,-8,-7,-6,-5,-4,-3,-2,-1; \pm1,\ \pm2,\ \pm3,\ \pm4,\ \pm5,$ umumiy holda $x = 10q + r, 0 \le r < 10$ va $q \in Z$. **202.** $m = 5$. **206.** 9,2,5,8,1,4,7,0,3,6. **207**. 0,1,2,3. **210**.Masalan: $1,5;\ -5,5;\ -5,-1;\ 7,11;\ 13,17.$ **211**. $(3,12) = 3$. **219.** $1,2,3,4,5,6,7,8,9-$ lar *m*=9 moduli boyicha musbat eng kichik chegirmalarning to'la sistemasi; $0,1,2,3,4,5,6,7,8-$ lar $m = 9$ moduli boyicha manfiy bo'lmagan eng kichik chegirmalarning to'la sistemasi; $0,\pm1,\pm2,\pm3,\pm4-$ lar *m=9* moduli boyicha absolyut qiymati jihatidan eng kichik chegirmalarning to'la sistemasi bo'ldi. $1,2,4,5,7,8-$ lar *m*=9 moduli boyicha musbat eng kichik chegirmalarning keltirilgan sistemasi; $1,2,4,5,7,8-$ lar *m=9* moduli boyicha manfiy bo'lmagan eng kichik chegirmalarning keltirilgan sistemasi; $\pm1,\pm2,\pm4-$ lar *m=9* moduli boyicha absolyut qiymati jihatidan eng kichik chegirmalarning keltirilgan sistemasi bo'ladi.

III.3-§.

224.12. **225.**7. **227**.8. **228**.2. **229**.1. **230**.22. **235**.7 va 6. **236**.1. **236.**049. **246.**$p = 3$.