

Element	1	8	12	14	18	21	27	31	34	38	44	47	51	53	57	64
Order	1	4	4	2	4	4	4	4	4	4	4	4	2	4	4	2
$\langle x \rangle$	1	8	12	14	18	21	27	31	34	38	44	47	51	53	57	64
		64	14	1	64	51	14	51	51	14	51	64	1	14	64	1
		57	38		47	31	53	21	44	12	34	18		27	8	
		1	1		1	1	1	1	1	1	1	1		1	1	

$$\langle 8 \rangle = \{8, 64, 57, 13\} \quad \langle 8 \rangle \cap \langle 12 \rangle = \{1\}$$

$$\langle 12 \rangle = \{12, 14, 38, 13\}$$

$$\Rightarrow |\langle 8 \rangle \times \langle 12 \rangle| = |\langle 8 \rangle| |\langle 12 \rangle| = 16 = |G|$$

$$\langle 8 \rangle \times \langle 12 \rangle = G$$

$$\approx \mathbb{Z}_4 \oplus \mathbb{Z}_4$$

$$\mathbb{Z}_2 \oplus \mathbb{Z}_2 \oplus \mathbb{Z}_2 \oplus \mathbb{Z}_2$$

$$\mathbb{Z}_4 \oplus \mathbb{Z}_2 \oplus \mathbb{Z}_2 \quad \text{order 4 elts:}$$

$$|(g_1, g_2, g_3)| = \text{lcm}(|g_1|, |g_2|, |g_3|)$$

mult. mod 91

Element	1	9	16	22	29	53	74	79	81
Order	1	3	3	3	3	3	3	3	3
$\langle x \rangle$	1	9	16	22	29	53	74	79	81
		81	74	29	22	79	16	53	9
		1	1	1	1	1	1	1	1

possibilities: $\mathbb{Z}_9, \mathbb{Z}_3 \oplus \mathbb{Z}_3$

$$\langle 9 \rangle = \{9, 81, 1\}$$

$$\langle 16 \rangle = \{16, 74, 1\}$$

$$G = \langle 9 \rangle \times \langle 16 \rangle \cong \mathbb{Z}_3 \oplus \mathbb{Z}_3$$

Element	1	2	4	5	8	10	11	13	16	17	19	20	22	23	25	26
Order	1	6		6		6	6	6		6	6	6		6		
<x>	1	2		5		10	11	13		17	19	20		23		
		4		25		37	58	43		37	46	22		25		
		8		62		55	8	55		62	55	62		8		
		16		58		46	25	22		46	37	43		58		
		32		38		19	23	34		26	10	41		11		
		1		1		1	1	1		1	1	1		1		

Element	29	31	32	34	37	38	40	41	43	44	46	47	50	52	53	55
Order	6	6			3		6			6		6				
<x>	29	31			37		40			44		47				
	22	16			46		25			46		4				
	8	55			1		55			8		62				
	43	4					58			37		16				
	50	61					52			53		59				
	1	1					1			1		1				

Element	58	59	61	62
Order				
<x>				