

Cherish

1 = F

Terry Kirkman

1	1	1	1	1	1	1	1	1	1	1	1	2					1	1
1						$2_{/1}^-$						b_7				5^7		

1	1	1	1	1	1	1	1	1	1	1	1	1	2					2	3	4
1						$2_{/1}^-$						b_7				5^7				

5 5 5 5 5 5 5 5								1	1	6				4				3	4				
5 5 5 5 5 5 5 5								3 ⁻				4				3 ⁻				4			

5 5 5 5 5 5 5 5								1	1	6	7	6	5	6	4	3	2	1	1	1	1	1	1	1	1	7	1	
5 5 5 5 5 5 5 5								3 ⁻				4				3 ⁻				2 ⁻				4				

1.															
2															
5															

2.															
2															
5															

Diagram illustrating a 1D lattice with four sites labeled 2^- , 5 , 3^- , and 7 . The sites are separated by vertical lines. The number of particles (blue squares) at each site is indicated by the number of blue squares below the site label:

- Site 2^- : 5 particles (two pairs of 6s and one 6).
- Site 5 : 7 particles (two pairs of 7s and three 7s).
- Site 3^- : 7 particles (two pairs of 7s and three 7s).
- Site 7 : 3 particles (one pair of 7s and one 7).

The figure consists of four separate bar charts, each representing a different group. The horizontal axis for all charts represents the number of children (0 to 10), and the vertical axis represents the count of individuals in that category.

- Group 5:** The distribution is concentrated at 0 children, with a count of 7. There are no other children in this group.
- Group 1:** The distribution is spread across 0, 1, and 2 children. There is 1 individual with 0 children, 3 individuals with 1 child, and 5 individuals with 2 children.
- Group 6⁻⁷:** The distribution is spread across 0, 1, and 2 children. There is 3 individuals with 0 children, 2 individuals with 1 child, and 1 individual with 2 children.
- Group 4:** The distribution is spread across 0, 1, and 2 children. There is 3 individuals with 0 children, 2 individuals with 1 child, and 1 individual with 2 children.

Diagram illustrating a quantum circuit with three qubits: b_7 , 5 , and $N.C.$.

The circuit consists of the following gates (represented by horizontal bars with values inside):

- On qubit b_7 : Four gates with values 3, 3, 3, 3, followed by a gate with value 2, and then a gate with value 1.
- On qubit 5 : A gate with value 2.
- On qubit $N.C.$: Five gates with values 5, 5, 5, 5, 5.

The diagram illustrates the decomposition of the number 5 into its prime factors. It consists of four vertical lines, each representing a prime factor. The first line is labeled '1' and contains two '5's. The second line is labeled '5/7' and contains five '5's. The third line is labeled '5^-1/7' and contains five '5's. The fourth line is labeled '6^7' and contains seven '5's'. The '5's' are arranged in a way that suggests they are being multiplied together to form the number 5.

Diagram illustrating the decomposition of the tensor product of four fundamental representations (6) of $SU(4)$ into irreducible representations. The decomposition is shown as follows:

$$6 \otimes 6 \otimes 6 \otimes 6 = 4 \oplus 5^7 \oplus 6^- \oplus 4 \oplus 2^{-7}$$

