NCERT Solutions for Class 6 Maths

Chapter 3 – Number Play

Exercise 3.2

Figure it Out (Page No. 57-58)

Question 1.
Colour or mark the supercells in the table below.

6828	670	9435	3780	3708	7308	8000	5583	52

Solution:

6828	**670**	**9435**	**3780**	**3708**	**7308**	**8000**	**5583**	**52**

Question 2.
Fill the table below with only 4-digit numbers such that the supercells are exactly the c cells.

5346			1258				9635	

Solution:

5346	**8345**	**1173**	**1258**	**1232**	**1054**	**7543**	**9635**	**9754**

Question 3.
Fill the table below such that we get as many supercells as possible. Use numbers between 100 and 1000 without repetitions.

Solution:

999	**573**	**650**	**633**	**654**	**582**	**743**	**709**	**834**

Question 4.
Out of the 9 numbers, how many supercells are there in the table above?
Solution:
Out of 9 numbers, there are 5 supercells in the above table.

Question 5.
Find out how many supercells are possible for different numbers of cells. Do you notice any pattern? What is the method to fill a given table to get the maximum number of supercells? Explore and share your strategy.
Solution:
If there are n odd cells then number of supercells = \(\frac{n+1}{2}\)
If there are n even cells then number of supercells = \(\frac{n}{2}\)
Yes, there is a pattern. Alternate cells can be supercells.

Method to fill a given table to get the maximum number of supercells.

- Make first cell as supercell. After that each alternate cell is to be made supercell.
- No consecutive cells can be supercell except in case of 4 cells because then first and fourth cell can be supercell.

Question 6.
Can you fill a supercell table without repeating numbers such that there are no supercells? Why or why not?
Solution:
No, it is not possible to fill a supercell table without repeating numbers such that there are no supercells.
As there are two cases:
Case I: If we fill the cells in descending order then the first cell be supercell.
Case II: If we fill the cells in ascending order then the last cell will be supercell.
If we don't follow any order, then there will atleast one supercell.

Question 7.
Will the cell having the largest number in a table always be a super cell? Can the cell having the smallest number in a table be a supercell? Why or why not?
Solution:
Yes, the cell having the largest number in a table always be a supercell because if it is comer cell, then the number adjacent to it (i.e. either the second cell or the second last cell) will be smaller than it. If it is in between then both its adjacent numbers would be smaller

than it.
No, the cell having a smallest number in a table can not be a supercell because the number adjacent to it will always be larger/greater than it.

Question 8.
Fill a table such that the cell having the second largest number is not a supercell.
Solution:

999	980	943	850	785	473	927	846	298

Here 980 is the second largest number but it is not a supercell as 999 is the supercell.

Question 9.
Fill a table such that the cell having the second largest number is not a supercell but the second smallest number is a super cell. Is it possible?
Solution:

1895	1870	1743	1652	956	659	567	475	489

Here 1870 is the second largest number but the cell having 1870 is not a supercell because number 1895 (adjacent to it) is greater than it.
489 is the second smallest number but the cell having 489 is a supercell because adjacent number 475 is smaller to it.

Question 10.
Make other variations of this puzzle and challenge your classmates.
Solution:
Fill a table such that only even numbers are supercell.
Fill a table such that all the supercells are divisible by 5.