BCM School, Chandigarh Road

A Senior Secondary School of BCM Foundation

Affiliated to CBSE, New Delhi

Class -6th Number Play

MCQ

1. **What is the estimated sum of 646 + 878?**
   (a) 1300 (b) 1400 (c) 1500 (d) 1600

2. **What is the estimated difference of 811 – 494?**
   (a) 200 (b) 250 (c) 300 (d) 350

3. **Which of the following is a 3-digit palindrome that can be formed using the digits 1, and 2?**
   (a) 111 (b) 121 (c) 123 (d) 132

4. **Which of the following numbers has digits that add up to 13?**
   (a) 59 (b) 77 (c) 85 (d) 92

5. **Which of the following sets of numbers adds up to 24,539?**
   (a) 5-digit number = 21,000, 3-digit number = 539
   (b) 5-digit number = 20,000, 3-digit number = 439
   (c) 5-digit number = 24,000, 3-digit number = 539
   (d) 5-digit number = 19,000, 3-digit number = 539

6. **In the pattern 3000, 3100, 3200, 3300, ...When placing the number 3600 on a number line, it would be placed just after ____.**
   (a) 3500 (b) 3650 (c) 4000 (d) 3800
7. **In a grid, a supercell is a number that is ____ than its neighbours directly above, below, left, and right.**
   (a) Smaller (b) Larger (c) Same (d) None of the above
8. **The digit '7' appears _____ times in the tens place from 1 to 100.**
   (a) 100 (b) 1000 (c) 10 (d) 1
9. **On a number line, 9950 would be placed exactly at 10,000.**
   (a) True (b) false (c) None of the above (d) Both A and B
10. **On a 12-hour clock, the time 10:10 is interesting because it forms a ____ pattern.**
11. **Write one 5-digit number and two 3-digit numbers such that their sum is 24,530.**
12. **The time now is 02:15. How many minutes until the clock shows the next palindromic time? What about the one after that?**

In the following questions, a statement of Assertion (A) is given, followed by a corresponding statement of Reason (R). Choose the correct option: (a) Both A and R are true, and R is the correct explanation of A. (b) Both A and R are true, but R is not the correct explanation of A. (c) A is true, but R is false. (d) A is false, but R is true. (e) Both A and R are false.

Q-13 Assertion (A): The number 121 is a palindrome number.

Reason (R): A palindrome number reads the same forwards and backwards.

Q-14Assertion (A): The smallest three-digit palindrome number is 101.
Reason (R): A number consisting of only one distinct digit (e.g., 777) is always a palindrome.

Q-15 Colour or mark the supercells in the table below

(*a*)	101	102	103	104	105	106	107	108
(*b*)	200	199	345	202	300	180	271	198

Q-16 Estimate the following:
(a) 730 + 998 (b) 796 – 314 (c) 958 × 387 (d) 765 ÷ 95

Q-17 Find the palindromic numbers by using the following 2-digit number 56 .

HOTS
Q-18 Digit sum 15
(a) Write other numbers whose digits add up to 15.
(b) What is the smallest number whose digit sum is 15?
(c) What is the largest 5-digit whose digit sum is 15?
(d) How big a number can you form having the digit sum 15? Can you make an even bigger number?

Q-19 Among the numbers 1-100, how many times will the digit '7'occur?
Q-20 What is the sum of the smallest and largest 6-digit palindrome? What is their difference?

Q-21 Make a collatz sequence starting with following whole numbers a) 17 and b) 22

Q22 We are the group of 5-digit numbers between 35000 and 75000 such that all of our digits are odd. Who is the largest number in our group? Who is the smallest number in our group? Who among us is the closest to 50000?

Q 23 How many rounds does the number 5683 take to reach the Kaprekar constant?

Case Study

Case Study -1 Pranav uses the digits '5', '2', '6', and '3' to make the smallest and largest 4-digit numbers with them: 2356 and 6532.

The difference between these two numbers is 6532 – 2356 = 4176.

The sum of these two numbers is 8888.Choose 4-digits to make:

(a) The difference between the largest and smallest numbers greater than 4176.

(b) The sum of the largest and smallest numbers greater than 8888.

Case Study -2

Pratibha uses the digits '4', '7', '3' and '2', and makes the smallest and largest 4-digit numbers with them: 2347 and 7432. The difference between these two numbers is 7432 – 2347 = 5085. The sum of these two numbers is 9779. Choose 4-digits to make:

(a) the difference between the largest and smallest numbers greater than 5085.
(b) the difference between the largest and smallest numbers less than 5085.
(c) the sum of the largest and smallest numbers greater than 9779.
(d) the sum of the largest and smallest numbers less than 9779.

Answers

1. (c) 1500
2. (c) 300
3. (b) 121
4. (c) 85
5. (c) 5-digit number = 24,000, 3-digit number = 539
6. (a) 3500
7. (b) Larger
8. (c) 10
9. (b) false
10. Palindromic
11. Example: 5-digit number = 24000, 3-digit numbers = 230, 300 (Sum = 24530). Many other combinations are possible.
12. Next palindromic time: 02:20 (5 minutes). The one after that: 03:30 (70 minutes after 02:20).
13. (a) Both A and R are true, and R is the correct explanation of A.
14. (b) Both A and R are true, but R is not the correct explanation of A.
15. (Identification of supercells depends on the specific numbers in the table, where a number is larger than its immediate neighbors above, below, left, and right).
16. (a) 1700 (b) 500 (c) 400,000 (d) 8
17. Example for 56: 121 (56 + 65).
18. (a) Examples: 69, 78, 87, 96, 159, 249, 339, 429, 519, 609, 1059, etc. (b) 69 (c) 96000 (d) Yes, you can always form an even bigger number (by adding more digits, e.g., 0s, or 1s to the left, while adjusting other digits to maintain the sum of 15).
19. 20 times
20. Sum: 1100000 Difference: 899998
21. Largest number: 73999 Smallest number: 35111 Closest to 50000: 51111
22. 8 Rounds

Case Study 1:

(a) Example Digits: 1, 2, 8, 9 (Difference: 8532) (b) Example Digits: 6, 7, 8, 9 (Sum: 16665)

Case Study 2: (a) Example Digits: 1, 2, 3, 9 (Difference: 8082) (b) Example Digits: 5, 6, 7, 8 (Difference: 3087) (c) Example Digits: 5, 7, 8, 9 (Sum: 15664)(d) Example Digits: 1, 2, 3, 4 (Sum: 5555)