

DIRECTIONS for questions 7 to 10: Refer to the data below and answer the questions that follow.

The following table shows the number of books available and the average number of readers for every subject on which a book is available in the library. The library has two sections, one is the lending section where readers can take books home and the other is the reference section where readers can refer to books but cannot take them home.

Subjects	Books available for lending	Books available for reference	No. of readers
History	125	25	200
Geography	175	30	200
English	100	15	100
Science	150	50	200
Economics	50	10	150

7. What is the total number of books in the library?
 1] 600 2] 200 **3] 730** 4] 700
8. What is the ratio of books available for lending to the total number of readers?
1] 12 : 17 2] 17 : 12 3] 6 : 17 4] 17 : 6
9. Which subjects has the lowest and the highest ratios of total number of books to number of readers respectively?
 1] Science, English 2] Economics, Geography
3] Economics, English 4] History, English
10. For which subject is the percentage of books available in the reference section the highest?
1] Science 2] Economics 3] History 4] Geography
11. How many 5 digit numbers can be formed from 1, 2, 3, 4, 5 (without repetition), when the digit at the unit's place must be greater than that in the ten's place?
 1] 120 **2] 60** 3] 48 4] 42
12. 7 boys and 4 girls are to be arranged in a row such that the number of persons of each gender on either side of the middle person are same. In how many ways can they be arranged?
 1] $7 \times {}^6C_3 \times {}^4C_2$ 2] $7 \times {}^6C_3 \times {}^4C_2 \times 5!$
3] $7 \times (5!)^2 \times {}^6C_3 \times {}^4C_2$ 4] None of these



19. Mr. Balakrishnan can solve 12 Maths or 10 Physics problems in 18 min. and Mr. Jaiswal can solve 6 Maths or 5 Physics problems in 24 min. They had to solve 20 Maths and 50 Physics problems. The time required when they work together is:

- 1] 1.46 hours 2] 1.14 hours 3] $\frac{14.8}{7}$ hours 4] 2 hours

20. The series a_1, a_2, \dots, a_{10} is in AP and h_1, h_2, \dots, h_{10} is in HP. The values of $a_1 = h_1 = 1$ and $a_{10} = h_{10} = 10$. Find the value of $a_6 h_6$.

- 1] 12 2] $17\frac{1}{10}$ 3] 4 4] 11

