UNIT 1

NUMBER SYSTEM

(A) Main Concepts and Results

(i) Knowing our Numbers

- Large numbers upto one crore
- Reading and writing of large numbers
- Comparing large numbers
- Indian System of Numeration
- International System of Numeration
- Use of large numbers
- Estimation of numbers
- Use of brackets
- Roman numerals

(ii) Whole Numbers

- Natural numbers
- Predecessor and successor of a natural number
- Whole numbers: The natural numbers along with zero form the collection of whole numbers.
- Representation of whole numbers on the number line
- Addition and subtraction of whole numbers on the number line
- Properties of whole numbers :

  Closure property

Commutativity of addition and multiplication

Associativity of addition multiplication

Distributivity of muliplication over addition

Identities for addition and multiplication

- Division of a whole number by zero is not defined
- Patterns in whole numbers

(iii) Playing with Numbers

- Factors and multiples
- Number of factors of a given number is finite
- Number of multiples of a given number is infinite
- Perfect number: A number for which sum of all its factors is equal to twice the number.
- Prime and composite numbers
- Tests for divisiblity of numbers by 2, 3, 4, 5, 6, 8, 9 and 11
- Common factors and common multiples
- Coprime numbers
- More divisibility rules :
  - Product of two consecutive whole numbers is divisible by 2
  - If a number is divisible by another number, then it is divisible by each of the factors of that number.
  - If a number is divisible by two coprime numbers, then it is divisibile by their product also.
  - If two given numbers are divisible by a number, then their sum is also divisible by that number.
  - If two given numbers are divisible by a number, then their difference is also divisible by that number.
- Prime factorisation of a number:
- Highest Common Factor (HCF) of two or more numbers
- Least Common Multiple (LCM) of two or more numbers
- Use of HCF and LCM in problems of day to day life.

(B) Solved Examples

In examples 1 to 7, write the correct answer from the given four options:

Example 1: $3 \times 10000 + 0 \times 1000 + 8 \times 100 + 0 \times 10 + 7 \times 1$ is same as

(A) 30087 (B) 30807 (C) 3807 (D) 3087

Solution: Correct answer is (B).

Example 2: 1 billion is equal to

(A) 100 millions (B) 10 millions

(C) 1000 lakhs (D) 10000 lakhs

Solution: Correct answer is (D).

Example 3: Which of the following numbers in Roman Numerals is incorrect?

(A) LXII (B) XCI (C) LC (D) XLIV

Solution: Correct answer is (C).

Example 4: Which of the following is not defined?

(A) $5 + 0$ (B) $5 - 0$ (C) 5×0 (D) $5 \div 0$

Solution: Correct answer is (D).

Example 5: The product of a non-zero whole number and its successor is always divisible by

(A) 2 (B) 3 (C) 4 (D) 5

Solution: Correct answer is (A).

Example 6: The number of factors of 36 is

(A) 6 (B) 7 (C) 8 (D) 9

Solution: Correct answer is (D).

Example 7: The sum of first three common multiples of 3, 4 and 9 is

(A) 108 (B) 144 (C) 252 (D) 216

Solution: Correct answer is (D).

In examples 8 to 10, fill in the blanks to make the statements true:

Example 8: In Indian System of Numeration, the number 61711682 is written, using commas, as _____.

Solution: 6,17,11,682

Example 9: The smallest 4 digit number with different digits is _____ .

Solution: 1023

Example 10: Numbers having more than two factors are called _____ numbers.

Solution: Composite

In examples 11 to 13, state whether the given statements are true or false:

Example 11: The number 58963 rounded off to nearest hundred is 58900.

Solution: False.

Example 12: LXXV is greater than LXXIV.

Solution: True [LXXV = 75, LXXIV = 74]

Example 13: If a number is divisible by 2 and 3, then it is also divisible by 6. So, if a number is divisible by 2 and 4, it must be divisible by 8.

Solution: False [2 and 4 are not coprimes]

Example 14: Population of Agra and Aligarh districts in the year 2001 was 36,20, 436 and 29,92,286, respectively. What was the total population of the two districts in that year?

Solution: In 2001 Population of Agra = 3620436

Population of Aligarh = 2992286

Total population = 3620436 + 2992286 = 66, 12, 722

Example 15: Estimate the product 5981 × 4428 by rounding off each number to the nearest (i) tens (ii) hundreds

Solution: (i) 5981 rounded off to nearest tens = 5980

4428 rounded off to nearest tens = 4430

The estimated product = 5980 × 4430 = 26491400

(ii) 5981 rounded off to nearest hundreds = 6000

4428 rounded off to nearest hundreds = 4400

The estimated product = 6000 × 4400

= 26400000

Example 16: Find the product 8739 × 102 using distributive property.

Solution: 8739 × 102 = 8739 × (100 + 2)

= 8739 × 100 + 8739 × 2

= 873900 + 17478

= 891378

Example 17: Floor of a room measures 4.5 metres × 3 metres. Find the minimum number of complete square marble slabs of equal size required to cover the entire floor.

Solution: To find the minimum number of square slabs to cover the floor, we have to find the greatest size of each such slab. For this purpose, we have to find the HCF of 450 and 300.

(Since 4.5m = 450cm and 3m = 300cm)

Now HCF of 450 and 300 = 150

So the required size of the slab must be 150cm × 150cm.

Hence, the number of slabs required = $\frac{\text{Area of the floor}}{\text{Area of one slab}}$

$= \frac{450 \times 300}{150 \times 150} = 6$

(C) Exercise

In questions 1 to 38, out of the four options, only one is correct. Write the correct answer.

1. The product of the place values of two 2's in 428721 is

(A) 4 (B) 40000 (C) 400000 (D) 40000000

2. 3 × 10000 + 7 × 1000 + 9 × 100 + 0 ×10 + 4 is the same as

(A) 3794 (B) 37940 (C) 37904 (D) 379409

3. If 1 is added to the greatest 7- digit number, it will be equal to

(A) 10 thousand (B) 1 lakh (C) 10 lakh (D) 1 crore

4. The expanded form of the number 9578 is

(A) $9 \times 10000 + 5 \times 1000 + 7 \times 10 + 8 \times 1$

(B) $9 \times 1000 + 5 \times 100 + 7 \times 10 + 8 \times 1$

(C) $9 \times 1000 + 57 \times 10 + 8 \times 1$

(D) $9 \times 100 + 5 \times 100 + 7 \times 10 + 8 \times 1$

5. When rounded off to nearest thousands, the number 85642 is

(A) 85600 (B) 85700 (C) 85000 (D) 86000

6. The largest 4-digit number, using any one digit twice, from digits 5, 9, 2 and 6 is

(A) 9652 (B) 9562 (C) 9659 (D) 9965

7. In Indian System of Numeration, the number 58695376 is written as

(A) 58,69, 53, 76 (B) 58,695,376

(C) 5,86,95,376 (D) 586,95,376

8. One million is equal to

(A) 1 lakh (B) 10 lakh (C) 1 crore (D) 10 crore

9. The greatest number which on rounding off to nearest thousands gives 5000, is

(A) 5001 (B) 5559 (C) 5999 (D) 5499

10. Keeping the place of 6 in the number 6350947 same, the smallest number obtained by rearranging other digits is

(A) 6975430 (B) 6043579 (C) 6034579 (D) 6034759

11. Which of the following numbers in Roman numerals is incorrect?

(A) LXXX (B) LXX (C) LX (D) LLX

12. The largest 5-digit number having three different digits is

(A) 98978 (B) 99897 (C) 99987 (D) 98799

13. The smallest 4-digit number having three different digits is

(A) 1102 (B) 1012 (C) 1020 (D) 1002

14. Number of whole numbers between 38 and 68 is

(A) 31 (B) 30 (C) 29 (D) 28

15. The product of successor and predecessor of 999 is

(A) 999000 (B) 998000 (C) 989000 (D) 1998

16. The product of a non-zero whole number and its successor is always

(A) an even number (B) an odd number
(C) a prime number (D) divisible by 3

17. A whole number is added to 25 and the same number is subtracted from 25. The sum of the resulting numbers is

(A) 0 (B) 25 (C) 50 (D) 75

18. Which of the following is not true?

(A) $(7 + 8) + 9 = 7 + (8 + 9)$

(B) $(7 \times 8) \times 9 = 7 \times (8 \times 9)$

(C) $7 + 8 \times 9 = (7 + 8) \times (7 + 9)$

(D) $7 \times (8 + 9) = (7 \times 8) + (7 \times 9)$

19. By using dot (·) patterns, which of the following numbers can be arranged in all the three ways namely a line, a triangle and a rectangle?

(A) 9 (B) 10 (C) 11 (D) 12

20. Which of the following statements is not true?

(A) Both addition and multiplication are associative for whole numbers.

(B) Zero is the identity for muliplication of whole numbers.

(C) Addition and multiplication both are commutative for whole numbers.

(D) Multiplication is distributive over addition for whole numbers.

21. Which of the following statements is not true?

(A) $0 + 0 = 0$ (B) $0 - 0 = 0$ (C) $0 \times 0 = 0$ (D) $0 \div 0 = 0$

22. The predecessor of 1 lakh is

(A) 99000 (B) 99999 (C) 999999 (D) 100001

23. The successor of 1 million is

(A) 2 millions (B) 1000001 (C) 100001 (D) 10001

24. Number of even numbers between 58 and 80 is

(A) 10 (B) 11 (C) 12 (D) 13

25. Sum of the number of primes between 16 to 80 and 90 to 100 is

(A) 20 (B) 18 (C) 17 (D) 16

26. Which of the following statements is not true?

(A) The HCF of two distinct prime numbers is 1

(B) The HCF of two co prime numbers is 1

(C) The HCF of two consecutive even numbers is 2

(D) The HCF of an even and an odd number is even.

27. The number of distinct prime factors of the largest 4-digit number is

(A) 2 (B) 3 (C) 5 (D) 11

28. The number of distinct prime factors of the smallest 5-digit number is

(A) 2 (B) 4 (C) 6 (D) 8

29. If the number 7254*98 is divisible by 22, the digit at * is

(A) 1 (B) 2 (C) 6 (D) 0

30. The largest number which always divides the sum of any pair of consecutive odd numbers is

(A) 2 (B) 4 (C) 6 (D) 8

31. A number is divisible by 5 and 6. It may not be divisible by

(A) 10 (B) 15 (C) 30 (D) 60

32. The sum of the prime factors of 1729 is

(A) 13 (B) 19 (C) 32 (D) 39

33. The greatest number which always divides the product of the predecessor and successor of an odd natural number other than 1, is

(A) 6 (B) 4 (C) 16 (D) 8

34. The number of common prime factors of 75, 60, 105 is

(A) 2 (B) 3 (C) 4 (D) 5

35. Which of the following pairs is not coprime?

(A) 8, 10 (B) 11, 12 (C) 1, 3 (D) 31, 33

36. Which of the following numbers is divisible by 11?

(A) 1011011 (B) 1111111 (C) 22222222 (D) 3333333

37. LCM of 10, 15 and 20 is

(A) 30 (B) 60 (C) 90 (D) 180

38. LCM of two numbers is 180. Then which of the following is not the HCF of the numbers?

(A) 45 (B) 60 (C) 75 (D) 90

In questions 39 to 98 state whether the given statements are true (T) or false (F).

39. In Roman numeration, a symbol is not repeated more than three times.

40. In Roman numeration, if a symbol is repeated, its value is multiplied as many times as it occurs.

41. $5555 = 5 \times 1000 + 5 \times 100 + 5 \times 10 + 5 \times 1$

42. $39746 = 3 \times 10000 + 9 \times 1000 + 7 \times 100 + 4 \times 10 + 6$

43. $82546 = 8 \times 1000 + 2 \times 1000 + 5 \times 100 + 4 \times 10 + 6$

44. $532235 = 5 \times 100000 + 3 \times 10000 + 2 \times 1000 + 2 \times 100 + 3 \times 10 + 5$

45. XXIX = 31

46. LXXIV = 74

47. The number LIV is greater than LVI.

48. The numbers 4578, 4587, 5478, 5487 are in descending order.

49. The number 85764 rounded off to nearest hundreds is written as 85700.

50. Estimated sum of 7826 and 12469 rounded off to hundreds is 20,000.

51. The largest six digit telephone number that can be formed by using digits 5, 3, 4, 7, 0, 8 only once is 875403.

52. The number 81652318 will be read as eighty one crore six lakh fifty two thousand three hundred eighteen.

53. The largest 4-digit number formed by the digits 6, 7, 0, 9 using each digit only once is 9760.

54. Among kilo, milli and centi, the smallest is centi.

55. Successor of a one digit number is always a one digit number.

56. Successor of a 3-digit number is always a 3-digit number.

57. Predecessor of a two digit number is always a two digit number.

58. Every whole number has its successor.

59. Every whole number has its predecessor.

60. Between any two natural numbers, there is one natural number.

61. The smallest 4-digit number is the successor of the largest 3-digit number.

62. Of the given two natural numbers, the one having more digits is greater.

63. Natural numbers are closed under addition.

64. Natural numbers are not closed under multiplication.

65. Natural numbers are closed under subtraction.

66. Addition is commutative for natural numbers.

67. 1 is the identity for addition of whole numbers.

68. 1 is the identity for multiplication of whole numbers.

69. There is a whole number which when added to a whole number, gives the number itself.

70. There is a natural number which when added to a natural number, gives the number itself.

71. If a whole number is divided by another whole number, which is greater than the first one, the quotient is not equal to zero.

72. Any non-zero whole number divided by itself gives the quotient 1.

73. The product of two whole numbers need not be a whole number.

74. A whole number divided by another whole number greater than 1 never gives the quotient equal to the former.

75. Every multiple of a number is greater than or equal to the number.

76. The number of multiples of a given number is finite.

77. Every number is a multiple of itself.

78. Sum of two consecutive odd numbers is always divisible by 4.

79. If a number divides three numbers exactly, it must divide their sum exactly.

80. If a number exactly divides the sum of three numbers, it must exactly divide the numbers separately.

81. If a number is divisible both by 2 and 3, then it is divisible by 12.

82. A number with three or more digits is divisible by 6, if the number formed by its last two digits (i.e., ones and tens) is divisible by 6.

83. A number with 4 or more digits is divisible by 8, if the number formed by the last three digits is divisible by 8.

84. If the sum of the digits of a number is divisible by 3, then the number itself is divisible by 9.

85. All numbers which are divisible by 4 may not be divisible by 8.

86. The Highest Common Factor of two or more numbers is greater than their Lowest Common Multiple.

87. LCM of two or more numbers is divisible by their HCF.

88. LCM of two numbers is 28 and their HCF is 8.

89. LCM of two or more numbers may be one of the numbers.

90. HCF of two or more numbers may be one of the numbers.

91. Every whole number is the successor of another whole number.

92. Sum of two whole numbers is always less than their product.

93. If the sum of two distinct whole numbers is odd, then their difference also must be odd.

94. Any two consecutive numbers are coprime.

95. If the HCF of two numbers is one of the numbers, then their LCM is the other number.

96. The HCF of two numbers is smaller than the smaller of the numbers.

97. The LCM of two numbers is greater than the larger of the numbers.

98. The LCM of two coprime numbers is equal to the product of the numbers.

In questions 99 to 151, fill in the blanks to make the statements true.

99. (a) 10 million = _____ crore.

(b) 10 lakh = _____ million.

100. (a) 1 metre = _____ millimetres.

(b) 1 centimetre = _____ millimetres.

(c) 1 kilometre = _____ millimetres.

101. (a) 1 gram = _____ milligrams.

(b) 1 litre = _____ millilitres.

(c) 1 kilogram = _____ miligrams.

102. 100 thousands = _____ lakh.

103. Height of a person is 1m 65cm. His height in millimetres is_____.

104. Length of river 'Narmada' is about 1290km. Its length in metres is_____.

105. The distance between Sringar and Leh is 422km. The same distance in metres is_____.

106. Writing of numbers from the greatest to the smallest is called an arrangement in _____ order.

107. By reversing the order of digits of the greatest number made by five different non-zero digits, the new number is the _____ number of five digits.

108. By adding 1 to the greatest_____ digit number, we get ten lakh.

109. The number five crore twenty three lakh seventy eight thousand four hundred one can be written, using commas, in the Indian System of Numeration as _____.

110. In Roman Numeration, the symbol X can be subtracted from_____, M and C only.

111. The number 66 in Roman numerals is_____.

112. The population of Pune was 2,538,473 in 2001. Rounded off to nearest thousands, the population was _____.

113. The smallest whole number is_____.

114. Successor of 106159 is _____.

115. Predecessor of 100000 is_____.

116. 400 is the predecessor of _____.

117. _____ is the successor of the largest 3 digit number.

118. If 0 is subtracted from a whole number, then the result is the _____ itself .

119. The smallest 6 digit natural number ending in 5 is _____.

120. Whole numbers are closed under _____ and under_____.

121. Natural numbers are closed under _____ and under_____.

122. Division of a whole number by _____ is not defined.

123. Multiplication is distributive over _____ for whole numbers.

124. 2395 × _____ = 6195 × 2395

125. 1001 × 2002 = 1001 × (1001+_____)

126. 10001 × 0 = _____

127. 2916 × _____ = 0

128. 9128 × _____ = 9128

129. 125 + (68+17) = (125 + _____) + 17

130. 8925 ×1 = _____

131. 19 × 12 + 19 = 19 × (12 + _____)

132. 24 × 35 = 24 × 18 + 24 × _____

133. 32 × (27 × 19) = (32 × _____) × 19

134. 786 × 3 + 786 × 7 = _____

135. 24 × 25 = 24 ×

136. A number is a _____ of each of its factor.

137. _____ is a factor of every number.

138. The number of factors of a prime number is_____.

139. A number for which the sum of all its factors is equal to twice the number is called a _____ number.

140. The numbers having more than two factors are called _____ numbers.

141. 2 is the only _____ number which is even.

142. Two numbers having only 1 as a common factor are called_____ numbers.

143. Number of primes between 1 to 100 is _____.

144. If a number has _____ in ones place, then it is divisible by 10.

145. A number is divisible by 5, if it has _____ or _____ in its ones place.

146. A number is divisible by _____ if it has any of the digits 0, 2, 4, 6, or 8 in its ones place.

147. If the sum of the digits in a number is a _____ of 3, then the number is divisible by 3.

148. If the difference between the sum of digits at odd places (from the right) and the sum of digits at even places (from the right) of a number is either 0 or divisible by _____, then the number is divisible by 11.

149. The LCM of two or more given numbers is the lowest of their common _____.

150. The HCF of two or more given numbers is the highest of their common _____.

151. Given below are two columns – Column I and Column II. Match each item of Column I with the corresponding item of Column II.

	Column I	**Column II**
(i)	The difference of two consecutive whole numbers	(a) odd
(ii)	The product of two non-zero consecutive whole numbers	(b) 0
(iii)	Quotient when zero is divided by another non-zero whole number	(c) 3
(iv)	2 added three times, to the smallest whole number	(d) 1
(v)	Smallest odd prime number	(e) 6 (f) even

152. Arrange the followng numbers in descending order:

8435, 4835, 13584, 5348, 25843

153. Of the following numbers which is the greatest? Which is the smallest
38051425, 30040700, 67205602

154. Write in expanded form :

(a) 74836

(b) 574021

(c) 8907010

155. As per the census of 2001, the population of four states are given below. Arrange the states in ascending and descending order of their population.

(a)	Maharashtra	96878627
(b)	Andhra Pradesh	76210007
(c)	Bihar	82998509
(d)	Uttar Pradesh	166197921

156. The diameter of Jupiter is 142800000 metres. Insert commas suitably and write the diameter according to International System of Numeration.

157. India's population has been steadily increasing from 439 millions in 1961 to 1028 millions in 2001. Find the total increase in population from 1961 to 2001. Write the increase in population in Indian System of Numeration, using commas suitably.

158. Radius of the Earth is 6400km and that of Mars is 4300000m. Whose radius is bigger and by how much?

159. In 2001, the poplulations of Tripura and Meghalaya were 3,199,203 and 2,318,822, respectively. Write the populations of these two states in words.

160. In a city, polio drops were given to 2,12,583 children on Sunday in March 2008 and to 2,16,813 children in the next month. Find the difference of the number of children getting polio drops in the two months.

161. A person had Rs 1000000 with him. He purchased a colour T.V. for Rs 16580, a motor cycle for Rs 45890 and a flat for Rs 870000. How much money was left with him?

162. Out of 180000 tablets of Vitamin A, 18734 are distributed among the students in a district. Find the number of the remaining vitamin tablets.

163. Chinmay had Rs 610000. He gave Rs 87500 to Jyoti, Rs 126380 to Javed and Rs 350000 to John. How much money was left with him?

164. Find the difference between the largest number of seven digits and the smallest number of eight digits.

165. A mobile number consists of ten digits. The first four digits of the number are 9, 9, 8 and 7. The last three digits are 3, 5 and 5. The remaining digits are distinct and make the mobile number, the greatest possible number. What are these digits?

166. A mobile number consists of ten digits. First four digits are 9,9,7 and 9. Make the smallest mobile number by using only one digit twice from 8, 3, 5, 6, 0.

167. In a five digit number, digit at ten's place is 4, digit at unit's place is one fourth of ten's place digit, digit at hunderd's place is 0, digit at thousand's place is 5 times of the digit at unit's place and ten thousand's place digit is double the digit at ten's place. Write the number.

168. Find the sum of the greatest and the least six digit numbers formed by the digits 2, 0, 4, 7, 6, 5 using each digit only once.

169. A factory has a container filled with 35874 litres of cold drink. In how many bottles of 200 ml capacity each can it be filled?

170. The population of a town is 450772. In a survey, it was reported that one out of every 14 persons is illiterate. In all how many illiterate persons are there in the town?

171. Find the LCM of 80, 96, 125, 160.

172. Make the greatest and the smallest 5-digit numbers using different digits in which 5 appears at ten's place.

173. How many grams should be added to 2kg 300g to make it 5kg 68g?

174. A box contains 50 packets of biscuits each weighing 120g. How many such boxes can be loaded in a van which cannot carry beyond 900kg?

175. How many lakhs make five billions?

176. How many millions make 3 crores?

177. Estimate each of the following by rounding off each number to nearest hundreds:

(a) 874 + 478

(b) 793 + 397

(c) 11244 + 3507

(d) 17677 + 13589

178. Estimate each of the follwoing by rounding off each number to nearest tens:

(a) 11963 – 9369

(b) 76877 – 7783

(c) 10732 – 4354

(d) 78203 – 16407

179. Estimate each of the following products by rounding off each number to nearest tens:

(a) 87 × 32

(b) 311×113

(c) 3239 × 28

(d) 1385 × 789

180. The population of a town was 78787 in the year 1991 and 95833 in the year 2001. Estimate the increase in population by rounding off each population to nearest hundreds.

181. Estimate the product 758 × 6784 using the general rule.

182. A garment factory produced 216315 shirts, 182736 trousers and 58704 jackets in a year. What is the total production of all the three items in that year?

183. Find the LCM of 160, 170 and 90.

184. A vessel has 13litres 200mL of fruit juice. In how many glasses each of capacity 60mL can it be filled?

185. Determine the sum of the four numbers as given below:

(a) successor of 32

(b) predecessor of 49

(c) predecessor of the predecessor of 56

(d) successor of the successor of 67

186. A loading tempo can carry 482 boxes of biscuits weighing 15kg each, whereas a van can carry 518 boxes each of the same weight. Find the total weight that can be carried by both the vehicles.

187. In the marriage of her daughter, Leela spent Rs 216766 on food and decoration,Rs 122322 on jewellery, Rs 88234 on furniture and Rs 26780 on kitchen items. Find the total amount spent by her on the above items.

188. A box contains 5 strips having 12 capsules of 500mg medicine in each capsule. Find the total weight in grams of medicine in 32 such boxes.

189. Determine the least number which when divided by 3, 4 and 5 leaves remainder 2 in each case.

190. A merchant has 120 litres of oil of one kind, 180 litres of another kind and 240 litres of a third kind. He wants to sell the oil by filling the three kinds of oil in tins of equal capacity. What should be the greatest capacity of such a tin?

191. Find a 4-digit odd number using each of the digits 1, 2, 4 and 5 only once such that when the first and the last digits are interchanged, it is divisible by 4.

192. Using each of the digits 1, 2, 3 and 4 only once, determine the smallest 4-digit number divisible by 4.

193. Fatima wants to mail three parcels to three village schools. She finds that the postal charges are Rs 20, Rs 28 and Rs 36, respectively. If she wants to buy stamps only of one denomination, what is the greatest denomination of stamps she must buy to mail the three parcels?

194. Three brands A, B and C of biscuits are available in packets of 12, 15 and 21 biscuits respectively. If a shopkeepeer wants to buy an equal number of biscuits, of each brand, what is the minimum number of packets of each brand, he should buy?

195. The floor of a room is 8m 96cm long and 6m 72cm broad. Find the minimum number of square tiles of the same size needed to cover the entire floor.

196. In a school library, there are 780 books of English and 364 books of Science. Ms. Yakang, the librarian of the school wants to store these books in shelves such that each shelf should have the same number of books of each subject. What should be the minimum number of books in each shelf?

197. In a colony of 100 blocks of flats numbering 1 to 100, a school van stops at every sixth block while a school bus stops at every tenth block. On which stops will both of them stop if they start from the entrance of the colony?

198. Test the divisiblity of following numbers by 11

(a) 5335 (b) 9020814

199. Using divisiblity tests, determine which of the following numbers are divisible by 4?

(a) 4096 (b) 21084 (c) 31795012

200. Using divisiblity test. determine which of the following numbers are divisible by 9?

(a) 672 (b) 5652