SATISH CHANDRA MEMORIAL SCHOOL

METRER SAMPLE PAPER -2019

 CLASS -VI

 SEC-A

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| 1. A person crosses a 600 m long street in 5 minutes. What is his speed in km per hour? |
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| **A.** | 3.6 B.7.2 C.8.4 D. 10 |

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| 2. If a person walks at 14 km/hr instead of 10 km/hr, he would have walked 20 km more. The actual distance travelled by him is: |
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| **A.** | 50 km B. 56KM C 70KM D. 80KM |

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3. Two friends Amar and Brijesh start from two different points and walk towards each other in a straight line. After meeting each other somewhere on the way, they finish their travel in 324 hours and 225 hours respectively. What is the ratio of speed of Amar to that of Brijesh?

a. 15:18 b. 18:15 c. 225:324 d. 324:225

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**4.** A dog sees a cat 80 m away. The cat runs at a speed of 5 m/s while the dog chases it at a speed 2 m/s more than that of cat. Before the dog is able to catch the cat, how much distance has it already run?

a. 50 mb. 100 mc. 130 m d. 200 m

**5.** To meet a friend in 6 minutes, Reeta drives at 40 kmph. If she could take 2 minutes more to meet her friend, at what speed could she drive?

a. 15 km/hr b. 18 km/hr c. 21 km/hr d. 30 km/hr

6. Rajat travels from City A to City B. He travels first 25% of the distance at 20 kmph, next 25% of the distance at half the earlier speed and the remaining distance at 80 kmph. Find his average speed for the travel.

a. 22.85 km/hr b. 25.15 km/hr c. 40 km/hr d. 50 km/hr

7. To reach school half an hour early, Meera has to increase her speed to 7/4 of her usual speed. How much time does she take every day to reach the school?

a. 54 min ` b. 66.67 min c. 67.50 min d. 70 min

8. Driving at 6/7 of his usual speed, a man reached his destination 12 minutes late. Find his usual time.

a. 1 hour b. 1 hour 12 minutes c. 1 hr 15 minutes d. 1 hr 20 minutes

9. A friend of mine covers a total distance of 325 km from his hotel to village by three different modes.  He travels first 96 km in a rickshaw, 124 km by bus and 105 km by bullock cart. The speed of rickshaw is 16 km/hr, bus is 31 km/h and bullock cart is 7 km/h. What is his average speed for the entire travel?

a. 13 km/hr b. 14.25 km/hr c. 18 km/hr d. 16.75 km/hr

10. On his way to office, Rohan's taxi driver drives him at a speed of 30 kmph and reaches late by one-third of an hour. Next morning, he drives at a speed of 45 kmph but is still 8 minutes late. Find the distance between his home and office?

a. 18 km b. 20 km  c. 27 km d. 35 km

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| A can do a work in 15 days and B in 20 days. If they work on it together for 4 days, then the fraction of the work that is left is : |
| 1. $\frac{1}{4}$ B. $\frac{1}{10}$ C. $\frac{7}{15}$ D.$\frac{8}{15}$
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| 12.A can lay railway track between two given stations in 16 days and B can do the same job in 12 days. With help of C, they did the job in 4 days only. Then, C alone can do the job in: |
| A.9$\frac{1}{5}$ days B. 9$\frac{2}{5}$ days C.9$\frac{3}{5}$ days D. 10 days |

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| 13.A, B and C can do a piece of work in 20, 30 and 60 days respectively. In how many days can A do the work if he is assisted by B and C on every third day? |
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| **A.** | 12 days **B.15 days C. 16 days D. 18 days** |

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| 14.A is thrice as good as workman as B and therefore is able to finish a job in 60 days less than B. Working together, they can do it in: |
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| **A.** | 20 days B. $22\frac{1}{2}$ C. 25 days D. 30 days |

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| 15.A alone can do a piece of work in 6 days and B alone in 8 days. A and B undertook to do it for Rs. 3200. With the help of C, they completed the work in 3 days. How much is to be paid to C? |
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| **A.** | Rs. 375 B. Rs. 400 C. Rs.600 D. 800 |

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| 16.If 6 men and 8 boys can do a piece of work in 10 days while 26 men and 48 boys can do the same in 2 days, the time taken by 15 men and 20 boys in doing the same type of work will be: |
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| **A.** | 4 days B.5 days C. 6 days D. 7 days |

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| 17.A can do a piece of work in 4 hours; B and C together can do it in 3 hours, while A and C together can do it in 2 hours. How long will B alone take to do it? |
| 1. 8 B.10 C .12 D.24
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| 18. A does 80% of a work in 20 days. He then calls in B and they together finish the remaining work in 3 days. How long B alone would take to do the whole work? |
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|  |  A.23 days B. 37 days C. 37$\frac{1}{2}$ D.40 days |

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| 19.  | A can finish a work in 18 days and B can do the same work in 15 days. B worked for 10 days and left the job. In how many days, A alone can finish the remaining work? |
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| **A.** | 5 B. $5\frac{1}{2}$ C. 6 D. 8 |

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| 20.Ravi and Kumar are working on an assignment. Ravi takes 6 hours to type 32 pages on a computer, while Kumar takes 5 hours to type 40 pages. How much time will they take, working together on two different computers to type an assignment of 110 pages? |
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| **A.** | 7 hours 30 minutes B.8 hours C.8hours 15 minutes D.8 hours 25 minutes |

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| 21. A sum of money at simple interest amounts to Rs. 815 in 3 years and to Rs. 854 in 4 years. The sum is: |
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| **A.** | Rs. 650 B. Rs.690 C. Rs.698 D. 700 |

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| 22. Mr. Thomas invested an amount of Rs. 13,900 divided in two different schemes A and B at the simple interest rate of 14% p.a. and 11% p.a. respectively. If the total amount of simple interest earned in 2 years be Rs. 3508, what was the amount invested in Scheme B? |
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| **A.** | Rs. 6400 B. Rs.6500 C.Rs.7200 D.Rs.7500 |

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| 23.How much time will it take for an amount of Rs. 450 to yield Rs. 81 as interest at 4.5% per annum of simple interest? |
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| **A.** | 3.5 years B. 4 years C. 4.5 years D. 5 years  |

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| 24. Reena took a loan of Rs. 1200 with simple interest for as many years as the rate of interest. If she paid Rs. 432 as interest at the end of the loan period, what was the rate of interest? |
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| **A.** | 3.6 B. 6 C. 18 D. Cannot be determined |
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| 25. A sum of Rs. 12,500 amounts to Rs. 15,500 in 4 years at the rate of simple interest. What is the rate of interest? |
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| **A.** | 3% B.4% C. 5% D. 6% |

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| 26.A lent Rs. 5000 to B for 2 years and Rs. 3000 to C for 4 years on simple interest at the same rate of interest and received Rs. 2200 in all from both of them as interest. The rate of interest per annum is: |
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| **A.** | 5% B. 7% C. $7$ $^{1}/\_{8}$ % D. 10% |

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| 27. A man took loan from a bank at the rate of 12% p.a. simple interest. After 3 years he had to pay Rs. 5400 interest only for the period. The principal amount borrowed by him was: |
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| **A.** | Rs. 2000 B. Rs.10000 C. 15000 D.20,000 |

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| 28.A sum of money amounts to Rs. 9800 after 5 years and Rs. 12005 after 8 years at the same rate of simple interest. The rate of interest per annum is: |
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| **A.** | 5% B. 8% C. 12 % D. 15%  |

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| 29.What will be the ratio of simple interest earned by certain amount at the same rate of interest for 6 years and that for 9 years? |
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| **A.** | 1 : 3 B. 1:4 C.2:3 D. Data inadequate |

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| 30.A certain amount earns simple interest of Rs. 1750 after 7 years. Had the interest been 2% more, how much more interest would it have earned? |
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| **A.** | Rs. 35 B.Rs.245 . C.Rs.350 D. Data inadequate. |

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| 31.Alfred buys an old scooter for Rs. 4700 and spends Rs. 800 on its repairs. If he sells the scooter for Rs. 5800, his gain percent is: |
| 1. 4$\frac{4}{7}$% B.5$\frac{5}{11}$ % C.10% 12%
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| 32.The cost price of 20 articles is the same as the selling price of *x* articles. If the profit is 25%, then the value of *x* is: |
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| **A.** | 15 B.16 C.18 D.25 |

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| 33.If selling price is doubled, the profit triples. Find the profit percent. |
|  A.66$\frac{2}{3}$ B.100 C. 105$\frac{1}{3}$ D. 120 |

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| 34.In a certain store, the profit is 320% of the cost. If the cost increases by 25% but the selling price remains constant, approximately what percentage of the selling price is the profit? |
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| **A.** | 30% B.70% C.100% D.250% |

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| 35.A vendor bought toffees at 6 for a rupee. How many for a rupee must he sell to gain 20%? |
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| **A.** | 3 B. 4 C. 5 D. 6 |

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| 36.A shopkeeper expects a gain of 22.5% on his cost price. If in a week, his sale was of Rs. 392, what was his profit? |
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| **A.** | Rs. 18.20 B. Rs70 C. Rs 72 D. Rs.88.25 |

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37.A man buys a cycle for Rs.1400 and sells it at a loss of 15% .What is selling price of cycle?

 A.Rs.1090 B. Rs 1160 C. Rs.1190 D. Rs.1202

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| 38.Sam purchased 20 dozens of toys at the rate of Rs. 375 per dozen. He sold each one of them at the rate of Rs. 33. What was his percentage profit? |
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| **A.** | 3.5 B. 4.5 C. 5.6 D. 6.5 |

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| 39. Some articles were bought at 6 articles for Rs. 5 and sold at 5 articles for Rs. 6. Gain percent is: |
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|  | A.30% B.33$\frac{1}{3}$ % C.35% D.44%

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| 40. On selling 17 balls at Rs. 720, there is a loss equal to the cost price of 5 balls. The cost price of a ball is: |
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| **A.** | Rs. 45 B. Rs50 C. Rs.55 D. Rs.60 |

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41.**(764 × ?) ÷ 250 = 382**

 A.115 B. 145 C. 135 D. 125

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| 42. What decimal of an hour in a second? |
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| **A.** | 0.0025 B 0.0256 C 0.00027 D 0.000126 |

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| 43. If 2994 ÷ 14.5 = 172, then 29.94 ÷ 1.45 =? |
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| **A.** | 0.172 B. 1.72 C 17.2 D. 172 |

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| 44.Evaluate : | (2.39)2 - (1.61)2 |
| 2.39 - 1.61 |

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| **A.** | 2 B. 4 C. 6 D. 8 |

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| 45.The value of | (0.96)3 - (0.1)3 | is: |
| (0.96)2 + 0.096 + (0.1)2 |

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| **A.** | 0.86 B. 0.95 C 0.97 D. 1.06 |

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| 46.The value of | 0.1 x 0.1 x 0.1 + 0.02 x 0.02 x 0.02 | is: |
| 0.2 x 0.2 x 0.2 + 0.04 x 0.04 x 0.04 |

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| **A.** | 0.0125 B. 0.125 C. 0.25 D. 0.5 |

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| 47. 009 | = .01 |
| ? |

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| **A.** | .0009 B.0 .09 C 0.9 D. 9 |

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| 48. 3889 + 12.952 - ? = 3854.002 |
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| **A.** | 47.095 B. 47.752 C. 47.932 D. 47.95 |

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| 49.Which of the following are in descending order of their value? |
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| **A.** |

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| 1 | , | 2 | , | 3 | , | 4 | , | 5 | , | 6 |
| 3 | 5 | 7 | 5 | 6 | 7 |

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| **B.** |

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| 1 | , | 2 | , | 3 | , | 4 | , | 5 | , | 6 |
| 3 | 5 | 5 | 7 | 6 | 7 |

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| **C.** |

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| 1 | , | 2 | , | 3 | , | 4 | , | 5 | , | 6 |
| 3 | 5 | 5 | 6 | 7 | 7 |

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| **D.** |

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| 6 | , | 5 | , | 4 | , | 3 | , | 2 | , | 1 |
| 7 | 6 | 5 | 7 | 5 | 3 |
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| 50.Which of the following fractions is greater than | 3 | and less than | 5 | ? |
| 4 | 6 |

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| A.$\frac{1}{2}$ |  B.$\frac{2}{3}$ C.$\frac{4}{5}$ D.$\frac{9}{10}$ |
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| 51. Find the greatest number that will divide 43, 91 and 183 so as to leave the same remainder in each case. |
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| **A.** | 4 B.7 C.9 D. 13 |

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| 52.The least multiple of 7, which leaves a remainder of 4, when divided by 6, 9, 15 and 18 is: |
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| **A.** | **74 B.94 C.184 D.364** |

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| 53.Salaries of Ravi and Sumit are in the ratio 2 : 3. If the salary of each is increased by Rs. 4000, the new ratio becomes 40 : 57. What is Sumit's salary? |
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| **A.** | Rs. 17,000 B. Rs. 20,000 C. Rs. 25,500 D. Rs. 38,000 |

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| 54.If 0.75 : *x* :: 5 : 8, then *x* is equal to: |
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| **A.** | 1.12 B 1.2 C 1.25 D. 1.30 |

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| 55.The fourth proportional to 5, 8, 15 is: |
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| **A.** | 18 B. 24 C. 19 D. 20 |

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| 56.A fruit seller had some apples. He sells 40% apples and still has 420 apples. Originally, he had: |
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| **A.** | 588 apples B. 600 apples C. 672 apples D. 700 apples |

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| 57.If 20% of *a* = *b*, then *b*% of 20 is the same as: |
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| **A.** | 4% of *a B.* 5% of *a C.* 20% of *a D.* None of these |

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| 58.The ratio between the perimeter and the breadth of a rectangle is 5 : 1. If the area of the rectangle is 216 sq. cm, what is the length of the rectangle? |
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| **A.** | 16 cm B. 18 cm C. 24 cm D. Data inadequate |

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| 59. What is the least number of squares tiles required to pave the floor of a room 15 m 17 cm long and 9 m 2 cm broad? |
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| **A.** | 814 B. 820 C. 840 D.844 |

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| 60.The difference between the length and breadth of a rectangle is 23 m. If its perimeter is 206 m, then its area is: |
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| **A.** | 1520 m2  B. 2420 m2 C. 2480 m2 D. 2520 m2 |

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Question no.-61-65

61) Find the missing term in each of the following series.

1, 6, 15, \_\_, 45, 66,91

a.25 b. 26 c. 27 d. 28

62).2,5,9,19,37,\_\_

a.73 b. 75 c. 76 d. 78

63)4,8,28,80,244,\_\_

a.278 b. 428 c. 628 d. 728

64)1,8,27,64,125,\_\_

a.216 b. 226 c. 245 d. 228

65) 0,6,24,60,120,210,\_\_

a.240 b. 290 c. 336 d. 504

Question no.-66-70

Choose the correct option.

66.PEN:WRITE::MICROSCOPE:?

a.Magnify b. dwelling c. skating d. grinding

67.OMLETTE:EGG::?:JAGGERY:

a.Sugarcane b. grapes c. wood d. leather

68.ORNITHOLOGY:BIRDS::ENTOMOLOGY:?

a.Insects b. hearts c. fishes d. man

69.NEWSPAPER:PRESS::CLOTH:?

a.Tailor b. textile c. fibre d. All

i70.INDIA:NEW DELHI::IRAN:?

a.Teheran b. Moscow c. London d. Paris

71.In a certain code LUTE is written as MUTE, FATE is written as GATE, then BLUE will be written as…

a.CLUE b. HULE c. WULE d. SLUE

72.In a certain code language MADRAS is coded as NBESBT, then BOMBAY will be coded as…

a.CPNCBZ b. BNKLUG c. WERTYY d. WESRDT

73.In a certain code, KAVERI is coded as VAKIRE, MYSORE will be coded as…

a.EROSYM b.SYMROE c. SYMERO d. SMYERP

74.If NOIDA is written as 39658, how will INDIA is written as…

a.63568 b. 36568 c. 63569 d. 65368

75.If paper is called wood, wood is called straw, straw is called grass, grass is called rubber, what is furniture made of

a. Wood b. straw c. grass d. rubber

76.Pointing to a person a man said to a woman, “his mother is the only daughter of our father” how is the woman related to that person?

a.Daughter b. sister c. mother d. wife

77.Pointing to a lady in a photograph romisaid to her son’s father is the son in law of my mother.”how is Romi related to the lady?

a.Aunt b. sister c. mother d. cousin

78.Pointing to a person a man said to a woman,”his mother is the only daughter of your father” how was the woman related to the person?

a.Aunt b. mother c. sister d. daughter

79.Arun said,”this girl is the wife of the grandson of my mother.”who is Arun to the girl?

a.Father b. grandfather c.. husband d. father in law

80. A girl introduced a boy as a son of the daughter of the father of her uncle. The boy is girl’s

a.Brother b. son c. uncle d. son in law

81.Which of the following diagrams indicates the best relation between Travellers, Train and Bus ?

82.Y is in the East of X which is in the North of Z. If P is in the South of Z, then in which direction of Y is P?

a.Northb. south c. south east d. Not

83 .A man walks 5 km toward south and then turns to the right. After walking 3 km he turns to the left and walks 5 km. Now in which direction is he from the starting place?

a.West b. south c. north east d. south west

84.Rasik walked 20 m towards north. Then he turned right and walks 30 m. Then he turns right and walks 35 m. Then he turns left and walks 15 m. Finally he turns left and walks 15 m. In which direction and how many metres is he from the starting position?

a. 15 m West b. 30 m east c. 30 m west d.45 m east

85.One evening before sunset Rekha and Hema were talking to each other face to face. If Hema's shadow was exactly to the right of Hema, which direction was Rekha facing?

North b. south c. east d. data inadequate

86.A, P, R, X, S and Z are sitting in a row. S and Z are in the centre. A and P are at the ends. R is sitting to the left of A. Who is to the right of P ?

A b.X c.S d.Z

87.A, B, C, D and E are sitting on a bench. A is sitting next to B, C is sitting next to D, D is not sitting with E who is on the left end of the bench. C is on the second position from the right. A is to the right of B and E. A and C are sitting together. In which position A is sitting ?

A. Between B and D

B. Between B and C

C. Between E and D

D. Between C and E

88 -90. In an Exhibition seven cars of different companies - Cadillac, Ambassador, Fiat, Maruti, Mercedes, Bedford and Fargo are standing facing to east in the following order :

Cadillac is next to right of Fargo.

Fargo is fourth to the right of Fiat.

Maruti car is between Ambassador and Bedford.

Fiat which is third to the left of Ambassador, is at one end.

88.Which of the cars are on both the sides of cadillaccar ?

A. Ambassador and Maruti

B. Maruti and Fiat

C. Fargo and Mercedes

D. Ambassador and Fargo

89.Which of the following statement is correct ?

A. Maruti is next left of Ambassador.

B. Bedford is next left of Fiat.

C. Bedford is at one end.

D. Fiat is next second to the right of Maruti.

90. Which one of the following statements is correct ?

A. Fargo car is in between Ambassador and Fiat.

B. Cadillac is next left to Mercedes car.

C. Fargo is next right of Cadillac.

D. Maruti is fourth right of Mercedes.

91) 92, 4, 12, 48, 240, (....)

A. 960 B. 1440 C. 1080 D. 1920

92) 2, 6, 12, 20, 30, 42, 56, (....)

A. 61 B. 64 C. 72 D. 70

93. (112 x 54) = ?

A. 67000 B. 70000 C. 76500 D. 77200

94. What least number must be added to 1056, so that the sum is completely divisible by 23 ?

A. 2 B. 3 C. 18 D. 21

95. The largest 4 digit number exactly divisible by 88 is:

A. 9944 B. 9768 C. 9988 D. 8888

96. Which of the following is a prime number ?

A. 33 B. 81 C. 93 D. 97

97. 5358 x 51 = ?

A. 273258 B. 273268 C. 273348 D. 273358

 98. The sum of first five prime numbers is:

A. 11 B. 18 C. 26 D. 28

 99. 72519 x 9999 = ?

A. 725117481 B. 674217481 C. 685126481 D. 696217481

 100.

If the number 517\*324 is completely divisible by 3, then the smallest whole number in the place of \* will be:

A. 0 B. 1 C. 2 D. None of these

SECTION B(NCERT)

101. (?) - 19657 - 33994 = 9999

A. 63650 B. 53760 C. 59640 D. 61560

102. Which of the following number is divisible by 24 ?

A. 35718 B. 63810 C. 537804 D. 3125736

103. If the number 481 \* 673 is completely divisible by 9, then the smallest whole number in place of \* will be:

A. 2 B. 5 C. 6 D. 7

104. The difference between the local value and the face value of 7 in the numeral 32675149 is

A. 75142 B. 64851 C. 5149 D. 69993

 105. The difference between a positive proper fraction and its reciprocal is 9/20. The fraction is:

A. 3/5 B. 3/10 C. 4/5 D. 2

106. How many of the following numbers are divisible by 3 but not by 9 ?

2133, 2343, 3474, 4131, 5286, 5340, 6336, 7347, 8115, 9276

A. 5 B. 6 C. 7 D. None of these

107.

The smallest prime number is:

A. 1 B. 2 C. 3 D. 4

 108. check which number is divisible by 11

A. 729 B. 1333 C. 90 D. 1331

. 109 . In the first 10 overs of a cricket game, the run rate was only 3.2. What should be the run rate in the remaining 40 overs to reach the target of 282 runs?

A. 6.25 B. 6.5 C. 6.75 D. 7

 110. A grocer has a sale of Rs. 6435, Rs. 6927, Rs. 6855, Rs. 7230 and Rs. 6562 for 5 consecutive months. How much sale must he have in the sixth month so that he gets an average sale of Rs. 6500?

A. Rs. 4991 B. Rs. 5991 C. Rs. 6001 D. Rs. 6991

111.what is the smallest product made by 4 different odd numbers?

A. 210 B. 230 C. 20 D. 450

112.69 in Roman

A. LXII B. LXIII C. LXIX D. LX

 113. LX+L+XL=?

A. 110 B. 123 C. 150 D. 120

114. 3 pumps, working 8 hours a day, can empty a tank in 2 days. How many hours a day must 4 pumps work to empty the tank in 1 day?

A. 9 B. 10 C. 11 D. 12

 115. 39 persons can repair a road in 12 days, working 5 hours a day. In how many days will 30 persons, working 6 hours a day, complete the work?

A. 10 B. 13 C. 14 D. 15

116. If a quarter kg of potato costs 60 paise, how many paise will 200 gm cost?

A. 48 paise B. 54 paise C. 56 paise D. 72 paise

 117. In a dairy farm, 40 cows eat 40 bags of husk in 40 days. In how many days one cow will eat one bag of husk?

A. 1 B. 9 C. 40 D. 80

118. Find the greatest number that will divide 43, 91 and 183 so as to leave the same remainder in each case.

A. 4 B. 7 C. 9 D. 13

119. The H.C.F. of two numbers is 23 and the other two factors of their L.C.M. are 13 and 14. The larger of the two numbers is:

A. 276 B. 299 C. 322 D. 345

 120. The greatest number of four digits which is divisible by 15, 25, 40 and 75 is:

A. 9000 B. 9400 C. 9600 D. 9800

 METRER ANSWER 2019

1.B)

|  |  |  |  |
| --- | --- | --- | --- |
| Speed = | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 600 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gifm/sec. |
| 5 x 60 |

   = 2 m/sec.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|    = | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 2 x | 18 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | km/hr |
| 5 |

   = 7.2 km/hr.

|  |
| --- |
| 2. A.)If a person walks at 14 km/hr instead of 10 km/hr, he would have walked 20 km more. The actual distance travelled by him is: |
| Let the actual distance travelled be *x* km.

|  |  |  |  |
| --- | --- | --- | --- |
| Then, | *x* | = | *x* + 20 |
| 10 | 14 |

https://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif 14*x* = 10*x* + 200https://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif 4*x* = 200* *x* = 50 km
 |
| 3.**Speed of A : Speed of B. =**√Y  :√x = |  |  | √225 | = | **15** |
|  | √324 |  | 18 |

4.

Let distance travelled by cat before dog catches it be D
We know, time for which Dog and Cat ran is same
∴ T = T

|  |  |  |  |
| --- | --- | --- | --- |
| ∴ | D | = | D+80 |
| 5 | 7 |

**∴ D = 200 m**

**5.**Distance is same
∴ D = D
∴ S1 x T1 = S2 x T2

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ∴ 40 x | 6 | = ? x | 8 | ---------> To convert minutes to hours, divide minutes by 60 |
| 60 | 60 |

**∴ ? = 30 km/hr** (This should be the speed)

6.a. 22.85 km/hr

**Explanation:**

|  |  |
| --- | --- |
| Speed = S = | D |
| T |

|  |  |
| --- | --- |
| Average Speed = | Total distance travelled |
| Total time taken |

Let Total distance = D km

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Parts of the distance = | D | ; | D | ; remaining distance. |
| 4 | 4 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Remaining distance = D - ( | D | + | D | ) = | D |
| 4 | 4 | 2 |

Half the earlier speed in second segment of travel = 10 kmph

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Total Time = t1+t2+t3 = | D | + | D | + | D | = | D | + | D | + | D | = | 7D |
| 4 x 20 | 4 x 10 | 2 x 80 | 80 | 40 | 160 | 160 |

|  |  |  |
| --- | --- | --- |
| **∴ Average speed =** | D | **= 22.85 km/hr** |
| 7D/160 |
|  |  |  |

7.**D)** We know, Distance travelled is same both times.
∴ D = D

|  |  |  |
| --- | --- | --- |
| ∴ S x T = | 7S | x (T-30) |
| 4 |

∴ 4T = 7T - 210
**∴ T = 70 min**

8.A)Newspeed =6/7 of usual speed

 New time =7/6 of usual time

Therefore,7/6 of usual time -usual time =1/5 hour

1/6 of usual time =1/5 hr

Usual time =6/5 hr

. =1hr 12min

|  |  |
| --- | --- |
| 9.A) Average Speed = | Total distance travelled |
| Total time taken |

Total distance = 96 + 124 + 105 = 325 km

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Total Time = t1+t2+t3 = | d1 | + | d2 | + | d3 | = | 96 | + | 124 | + | 105 | = 25 hours |
| s1 | s2 | s3 | 16 | 31 | 7 |

|  |  |  |
| --- | --- | --- |
| **∴ Average speed =** | 325 | **= 13 km/hr** |
| 25 |
| 10. A) Let distance be DWith speed 30km/hr he is 20 minutes (one-third of an hour) lateWith speed 45 km/hr he is 8 minutes late

|  |
| --- |
| ∴ Difference between two times = 20-8 = 12 min = |

 |  |  |
| Also, time = T = | D |
| S |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ∴ | D | - | D | = | 12 |
| 30 | 45 | 60 |

**∴ D = 18 km**

11.**D)**

|  |  |  |
| --- | --- | --- |
| A's 1 day's work = | 1 | ; |
| 15 |

|  |  |  |
| --- | --- | --- |
| B's 1 day's work = | 1 | ; |
| 20 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| (A + B)'s 1 day's work = | ( | 1 | + | 1 | ) | = | 7 | . |
| 15 | 20 | 60 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| (A + B)'s 4 day's work = | ( | 7 | x 4 | ) | = | 7 | . |
| 60 | 15 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Therefore, Remaining work = | ( | 1 - | 7 | ) | = | 8 | . |
| 15 | 15 |

12.C)

|  |  |  |
| --- | --- | --- |
| (A + B + C)'s 1 day's work = | 1 | , |
| 4 |

|  |  |  |
| --- | --- | --- |
| A's 1 day's work = | 1 | , |
| 16 |

|  |  |  |
| --- | --- | --- |
| B's 1 day's work = | 1 | . |
| 12 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Therefore C's 1 day's work = | 1 | - | ( | 1 | + | 1 | ) | = | ( | 1 | - | 7 | ) | = | 5 | . |
| 4 | 16 | 12 | 4 | 48 | 48 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| So, C alone can do the work in | 48 | = 9 | 3 | days. |
| 5 | 5 |

13. **B**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| A's 2 day's work = | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 1 | x 2 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = | 1 | . |
| 20 | 10 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| (A + B + C)'s 1 day's work = | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 1 | + | 1 | + | 1 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = | 6 | = | 1 | . |
| 20 | 30 | 60 | 60 | 10 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Work done in 3 days = | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 1 | + | 1 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = | 1 | . |
| 10 | 10 | 5 |

|  |  |  |
| --- | --- | --- |
| Now, | 1 | work is done in 3 days. |
| 5 |

 Whole work will be done in (3 x 5) = 15 days

14.( **B)**

Ratio of times taken by A and B = 1 : 3.

The time difference is (3 - 1) 2 days while B take 3 days and A takes 1 day.

If difference of time is 2 days, B takes 3 days.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| If difference of time is 60 days, B takes |  | 3 | x 60 |  | = 90 days. |
| 2 |

So, A takes 30 days to do the work.

|  |  |
| --- | --- |
| A's 1 day's work = | 1 |
| 30 |

|  |  |
| --- | --- |
| B's 1 day's work = | 1 |
| 90 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| (A + B)'s 1 day's work = |  | 1 | + | 1 |  | = | 4 | = | 2 |
| 30 | 90 | 90 | 45 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  A and B together can do the work in | 45 | = 22 | 1 | days. |
|  |  |

**15.(B)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| C's 1 day's work = | 1 | - | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 1 | + | 1 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = | 1 | - | 7 | = | 1 | . |
| 3 | 6 | 8 | 3 | 24 | 24 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| A's wages : B's wages : C's wages = | 1 | : | 1 | : | 1 | = 4 : 3 : 1. |
| 6 | 8 | 24 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| https://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gifC's share (for 3 days) = Rs. | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 3 x | 1 | x 3200 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = Rs. 400. |
|  |

**16.A)**

Let 1 man's 1 day's work = *x* and 1 boy's 1 day's work = *y*.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Then, 6*x* + 8*y* = | 1 | and 26*x* + 48*y* = | 1 | . |
| 10 | 2 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Solving these two equations, we get : *x* = | 1 | and *y* = | 1 | . |
| 100 | 200 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| (15 men + 20 boy)'s 1 day's work = |  | 15 | + | 20 |  | = | 1 | . |
| 100 | 200 | 4 |

 15 men and 20 boys can do the work in 4 days.

17.**C**)

|  |  |  |
| --- | --- | --- |
| A's 1 hour's work = | 1 | ; |
| 4 |

|  |  |  |
| --- | --- | --- |
| (B + C)'s 1 hour's work = | 1 | ; |
| 3 |

|  |  |  |
| --- | --- | --- |
| (A + C)'s 1 hour's work = | 1 | . |
| 2 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| (A + B + C)'s 1 hour's work = | ( | 1 | + | 1 | ) | = | 7 | . |
| 4 | 3 | 12 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| B's 1 hour's work = | ( | 7 | - | 1 | ) | = | 1 | . |
| 12 | 2 | 12 |

* B alone will take 12 hours to do the work

18.**C**

Explanation:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Whole work is done by A in |  | 20 x | 5 |  | = 25 days. |
| 4 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Now, | ( | 1 - | 4 | ) | i.e., | 1 | work is done by A and B in 3 days. |
| 5 | 5 |

Whole work will be done by A and B in (3 x 5) = 15 days.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| A's 1 day's work = | 1 | , (A + B)'s 1 day's work = | 1 | . |
| 25 | 15 |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Therefore B's 1 day's work = | ( | 1 | - | 1 | ) | = | 4 | = | 2 | . |
| 15 | 25 | 150 | 75 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| So, B alone would do the work in | 75 | = 37 | 1 | days. |
|  |  |

19.**C)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| B's 10 day's work = | ( | 1 | x 10 | ) | = | 2 | . |
| 15 | 3 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Remaining work = | ( | 1 - | 2 | ) | = | 1 | . |
| 3 | 3 |

|  |  |  |
| --- | --- | --- |
| Now, | 1 | work is done by A in 1 day. |
| 18 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Therefore | 1 | work is done by A in | ( | 18 x | 1 | ) | = 6 days. |
|  |  |

 3. 3

20. C**)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Number of pages typed by Ravi in 1 hour = | 32 | = | 16 | . |
| 6 | 3 |

|  |  |  |
| --- | --- | --- |
| Number of pages typed by Kumar in 1 hour = | 40 | = 8. |
| 5 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Number of pages typed by both in 1 hour = | ( | 16 | + 8 | ) | = | 40 | . |
| 3 | 3 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Therefore Time taken by both to type 110 pages = | ( | 110 x | 3 | ) | hours |
| 40 |

|  |  |  |
| --- | --- | --- |
| = 8 | 1 | hours (or) 8 hours 15 minutes. |
| 4 |

21.**C)**

S.I. for 1 year = Rs. (854 - 815) = Rs. 39.

S.I. for 3 years = Rs.(39 x 3) = Rs. 117.

 Principal = Rs. (815 - 117) = Rs. 698

22)**A)**

Let the sum invested in Scheme A be Rs. *x* and that in Scheme B be Rs. (13900 - *x*).

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Then, | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | *x* x 14 x 2 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | + | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | (13900 - *x*) x 11 x 2 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = 3508 |
| 100 | 100 |

 28*x* - 22*x* = 350800 - (13900 x 22)

 6*x* = 45000

 *x* = 7500.

So, sum invested in Scheme B = Rs. (13900 - 7500) = Rs. 6400.

23.**B)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Time = | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 100 x 81 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gifyears | = 4 years. |

**24. B)**

Let rate = R% and time = R years.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Then, | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 1200 x R x R | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = 432 |
| 100 |

 12R2 = 432

 R2 = 36

* R = 6.

**25.(D)**

S.I. = Rs. (15500 - 12500) = Rs. 3000.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Rate = |  | 100 x 3000 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif% | = 6% |
| 12500 x 4 |

**26.D)**

Let the rate be R% p.a.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Then, |  | 5000 x R x 2 |  | + |  | 3000 x R x 4 |  | = 2200. |
| 100 | 100 |

 100R + 120R = 2200

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  R = |  | 2200 |  | = 10. |
| 220 |

 Rate = 10%.

**27.C)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Principal = Rs. | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 100 x 5400 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = Rs. 15000. |
| 12 x 3 |
| 28. C)S.I. for 3 years = Rs. (12005 - 9800) = Rs. 2205.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| S.I. for 5 years = Rs. | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 2205 | x 5 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = Rs. 3675 |
| 3 |

https://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif Principal = Rs. (9800 - 3675) = Rs. 6125.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Hence, rate = | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 100 x 3675 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif% | = 12% |
| 6125 x 5 |

 |  |  |  |  |

**29.C)**

Let the principal be P and rate of interest be R%.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| https://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif Required ratio = |

|  |  |  |
| --- | --- | --- |
| https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | P x R x 6 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif |
| 100 |

 | = | 6PR | = | 6 | = 2 : 3. |
|

|  |  |  |
| --- | --- | --- |
| https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | P x R x 9 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif |
| 100 |

 | 9PR |  |

**30.D)**

We need to know the S.I., principal and time to find the rate.

Since the principal is not given, so data is inadequate

31.**B)**

Cost Price (C.P.) = Rs. (4700 + 800) = Rs. 5500.

Selling Price (S.P.) = Rs. 5800.

Gain = (S.P.) - (C.P.) = Rs.(5800 - 5500) = Rs. 300.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Gain % = | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 300 | x 100 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif% | = 5 | 5 | % |
| 5500 | 11 |
| 32.B)Let C.P. of each article be Re. 1 C.P. ofx  *a*rticles = Rs. *x*.S.P. of *x* articles = Rs. 20.Profit = Rs. (20 - *x*).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| https://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 20 - *x* | x 100 = 25 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif |
| *x* |

https://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif 2000 - 100*x* = 25*x*125*x* = 2000https://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif *x* = 16.33.Let C.P. be Rs. *x* and S.P. be Rs. *y*.Then, 3(*y* - *x*) = (2*y* - *x*)   https://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif *y* = 2*x*.Profit = Rs. (*y* - *x*) = Rs. (2*x* - *x*) = Rs. *x*.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| https://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif Profit % = | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | *x* | x 100 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif% = 100% |
| *x* |

 |  |  |  |  |  |  |  |

**34.B)**

Let C.P.= Rs. 100. Then, Profit = Rs. 320, S.P. = Rs. 420.

New C.P. = 125% of Rs. 100 = Rs. 125

New S.P. = Rs. 420.

Profit = Rs. (420 - 125) = Rs. 295.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  Required percentage = |  | 295 | x 100 | % | = | 1475 | % = 70% (approximately). |
| 420 | 21 |

**35.C)**

C.P. of 6 toffees = Re. 1

|  |  |
| --- | --- |
| S.P. of 6 toffees = 120% of Re. 1 = Rs. | 6 |
| 5 |

|  |  |  |
| --- | --- | --- |
| For Rs. | 6 | , toffees sold = 6. |
| 5 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| For Re. 1, toffees sold = | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 6 x | 5 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = 5. |
| 6 |

**36.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| C)

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| C.P. = Rs. | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 100 | x 392 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = Rs. | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 1000 | x 392 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = Rs. 320 |
| 122.5 | 1225 |

https://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif Profit = Rs. (392 - 320) = Rs. 72. |

**37.**C)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| S.P. = 85% of Rs. 1400 = Rs. | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 85 | x 1400 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = Rs. 1190 |
|  |

**38.C)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Cost Price of 1 toy = Rs. | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 375 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = Rs. 31.25 |
| 12 |

Selling Price of 1 toy = Rs. 33

So, Gain = Rs. (33 - 31.25) = Rs. 1.75

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| https://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif Profit % = | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 1.75 | x 100 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif% | = | 28 | % = 5.6% |
| 31.25 |  |  |
| 39.  D)Suppose, number of articles bought = L.C.M. of 6 and 5 = 30.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| C.P. of 30 articles = Rs. | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 5 | x 30 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = Rs. 25. |
| 6 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| S.P. of 30 articles = Rs. | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 6 | x 30 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = Rs. 36. |
| 5 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| https://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif Gain % = | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 11 | x 100 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif% = 44%. |
| 25 |

40. |  |  |  |  |  |  |

**D)**

(C.P. of 17 balls) - (S.P. of 17 balls) = (C.P. of 5 balls)

 C.P. of 12 balls = S.P. of 17 balls = Rs.720.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| https://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif C.P. of 1 ball = Rs. | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 720 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = Rs. 60. |
| 12 |
| 41.D) |  |  |  |  |

|  |  |
| --- | --- |
| 764 × ? |  = 382 |
| 250 |

|  |  |  |
| --- | --- | --- |
| ? =  | 382 × 250 |  = 125 |
| 764 |

**42. C)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Required decimal = | 1 | = | 1 | = .00027 |
| 60 x 60 | 3600 |

43. **C)**

|  |  |  |
| --- | --- | --- |
| 29.94 | = | 299.4 |
| 1.45 | 14.5 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| = |  | 2994 | x | 1 |  | [ Here, Substitute 172 in the place of 2994/14.5 ] |
| 14.5 | 10 |

|  |  |
| --- | --- |
| = | 172 |
| 10 |

= 17.2

44.

|  |  |  |  |
| --- | --- | --- | --- |
| *a*2 - *b*2 | = | (*a* + *b*)(*a* - *b*) | = (*a* + *b*) = (2.39 + 1.61) = 4. |
| *a* - *b* | (*a* - *b*) |

45.**A**)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Given expression |

|  |  |
| --- | --- |
| = | (0.96)3 - (0.1)3 |
| (0.96)2 + (0.96 x 0.1) + (0.1)2 |

 |
|  |

|  |  |  |  |
| --- | --- | --- | --- |
| = | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | *a*3 - *b*3 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif |
| *a*2 + *ab* + *b*2 |

 |
|  |

|  |
| --- |
| = (*a* - *b*) |
| = (0.96 - 0.1) |
| = 0.86 |

 |

46.**B)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Given expression = | (0.1)3 + (0.02)3 | = | 1 | = 0.125 |

47.**C)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Let | .009 | = .01;     Then *x* = | .009 | = | .9 | = .9 |
| *x* | .01 | 1 |

48.**D)**

Let 3889 + 12.952 - *x* = 3854.002.

Then *x* = (3889 + 12.952) - 3854.002

   = 3901.952 - 3854.002

   = 47.95.

49 D)find lcm of denominator and convert into like fractions.

50.

**C**)

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 3 | = 0.75,    | 5 | = 0.833,    | 1 | = 0.5,    | 2 | = 0.66,    | 4 | = 0.8,    | 9 | = 0.9. |
| 4 | 6 | 2 | 3 | 5 | 10 |

Clearly, 0.8 lies between 0.75 and 0.833.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| https://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif | 4 | lies between | 3 | and | 5 | . |
| 5 | 4 | 6 |

51.**A)**

Required number = H.C.F. of (91 - 43), (183 - 91) and (183 - 43)

     = H.C.F. of 48, 92 and 140 = 4.

52.**D**)

L.C.M. of 6, 9, 15 and 18 is 90.

Let required number be 90*k* + 4, which is multiple of 7.

Least value of *k* for which (90*k* + 4) is divisible by 7 is *k* = 4.

 Required number = (90 x 4) + 4   = 364

53.**D**)

Let the original salaries of Ravi and Sumit be Rs. 2*x* and Rs. 3*x* respectively.

|  |  |  |  |
| --- | --- | --- | --- |
| Then, | 2*x* + 4000 | = | 40 |
| 3*x* + 4000 | 57 |

 57(2*x* + 4000) = 40(3*x* + 4000)

 6*x* = 68,000

 3*x* = 34,000

Sumit's present salary = (3*x* + 4000) = Rs.(34000 + 4000) = Rs. 38,000.

54.**B**)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| (*x* x 5) = (0.75 x 8)   https://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif *x* = | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 6 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = 1.20 |
| 5 |

**55.B**)

Let the fourth proportional to 5, 8, 15 be *x*.

Then, 5 : 8 : 15 : *x*

 5*x* = (8 x 15)

|  |  |  |
| --- | --- | --- |
| X = | (8 x 15) | = 24. |
| 5 |

56.**D**)

Suppose originally he had *x* apples.

Then, (100 - 40)% of *x* = 420.

|  |  |  |
| --- | --- | --- |
| https://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif | 60 | x *x* = 420 |
| 100 |

|  |  |  |  |
| --- | --- | --- | --- |
| https://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif *x* = | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 420 x 100 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif  = 700. |
| 60 |

**57.**A)

|  |  |  |
| --- | --- | --- |
| 20% of *a* = *b*   https://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif    | 20 | *a* = *b*. |
| 100 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| https://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif *b*% of 20 = | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | *b* | x 20 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 20 | *a* x | 1 | x 20 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = | 4 | *a* = 4% of *a*. |
| 100 | 100 | 100 | 100 |

**58.B)**

|  |
| --- |
|  |

|  |  |  |
| --- | --- | --- |
| 2(*l* + *b*) | = | 5 |
| *b* | 1 |

 2*l* + 2*b* = 5*b*

 3*b* = 2*l*

|  |  |  |
| --- | --- | --- |
| *b* = | 2 | *l* |
| 3 |

Then, Area = 216 cm2

 *l* x *b* = 216

|  |  |  |  |
| --- | --- | --- | --- |
| *l* x |  | *l* | = 216 |
| 3 |

 *l*2 = 324

 *l* = 18 cm.

|  |
| --- |
| **59.** |
|  |

A)

Length of largest tile = H.C.F. of 1517 cm and 902 cm = 41 cm.

Area of each tile = (41 x 41) cm2.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| https://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif Required number of tiles = | https://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 1517 x 902 | https://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = 814. |
| 41 x 41 |

60. ( **D)**

We have: (*l* - *b*) = 23 and 2(*l* + *b*) = 206 or (*l*+ *b*) = 103.

Solving the two equations, we get: *l* = 63 and *b* = 40.

 Area = (*l* x *b*) = (63 x 40) m2 = 2520 m2.

SOLUTION

61.(d) Clearly the given sequence follows the pattern +5, +9, +13, +17, +21, +25, So the missing term is, 15+13=28

62.(b) Clearly we have: 2\*2+1=5, 5\*2-1=9, 9\*2+1=19, 19\*2-1=37, so the missing term is, 37\*2-1=75

63.(d) The terms of the given series are: 31+1, 32-1, 33+1, 34-1, 35+1… so the missing term is, 36 -1=728

64.(a) The given series follows the pattern, 13 , 23 , 33 , 43 ,53 , so the missing term will be, 63 =216

65. (c) the given series is, 13 -1, 23 -2, 33 -3, 43 -4, 53 -5, 63 -6, the missing term is, 73 -7= 336

66.(a) pen is used for writing and microscope is used for magnifying

67.(a) Omlette is made by egg, jaggery is made of sugarcane

68(a) Ornithology is the study of birds, and entomology is the study of insects.

69.(d) Newspaper is printed in Press, Cloth is produced in Mills

70.(a)New Delhi is the capital of India, Teheran is the capital of Iran.

71.(a) The first letter of the word is moved one step forward to obtain the first letter of the code.while the other letters remain unaltered.

72(a) each letter moved one step forward to obtain the corresponding letter of the unaltered.

73.(c) The letters in the first half and the second half of the word are written in the reverse order to obtain the code.

74.(a) N,O,I,D,A are coded as 3,9,6,5,8 respectively.

So, INDIA will be coded just as the same way.

75.(b) furniture is made up of wood,wood is called straw.

76. (c) The only daughter of woman’s father is she herself, So, the person is woman’s son. So the woman is the person’s mother.

77. b) lady’s son’s father is lady’s husband. So lady ’s husband is the son in law of Romi’smother.the lady’s daughter is Romi’s mother. Romi is the lady’s sister.

78 .(b) only daughter of my mother is mother.

79. .(d) mother’s grandson= son,son’s wife= daughter in law

80.(a) daughter of uncle’s father=uncle’s sister= mother, mother’s son =brdaughter

81.(c ) Bus and Train are different from each other but some travellers travel by bus and some travel by train.

82.

83.

84.

.

85.b)



86.b)



87.b)

88.(c) Fargo and Mercedes are on both the sides of cadillac car

89 (a)

90.(b)

91.(b)the given series is in this pattern,

2\*2,4\*3,12\*4,48\*5,240\*6

92 c ) the gap between two numbers are increasing in the way 4,6,8,10,12,14,16…4

93.(b) 112\* ( )4

94(a)

23) 1056 (45

 92

 ---

 136

 115

 ---

 21

 ---

Required number = (23 - 21)

 = 2.

95.(a)

88) 9999 (113

 88

 ----

 119

 88

 ----

 319

 264

 ---

 55

 ---

 Required number = (9999 - 55)

 = 9944.

96.(d)

97.(a)

5358 x 51 = 5358 x (50 + 1)

= 5358 x 50 + 5358 x 1

= 267900 + 5358

=27358

98.(d)

(Required sum = (2 + 3 + 5 + 7 + 11) = 28.

Note: 1 is not a prime number.)

99.(a)

72519 x 9999 = 72519 x (10000 - 1)

= 72519 x 10000 - 72519 x 1

= 725190000 - 72519

= 7725117481.

100.(c)

Sum of digits = (5 + 1 + 7 + x + 3 + 2 + 4) = (22 + x), which must be divisible by 3.

 x = 2.

101.(a)

Let x - 53651 = 9999

Then, x = 9999 + 53651 = 63650

102.(d)

24 = 3 x8, where 3 and 8 co-prime.

Clearly, 35718 is not divisible by 8, as 718 is not divisible by 8.

Similarly, 63810 is not divisible by 8 and 537804 is not divisible by 8.

Consider option (D),

Sum of digits = (3 + 1 + 2 + 5 + 7 + 3 + 6) = 27, which is divisible by 3.

Also, 736 is divisible by 8.

 3125736 is divisible by (3 x 8), i.e., 24.

103 (d)

Sum of digits = (4 + 8 + 1 + x + 6 + 7 + 3) = (29 + x), which must be divisible by 9.

 x = 7.

104.d)

(Local value of 7) - (Face value of 7) = (70000 - 7) = 69993

105 (a)

106.(b)

Marking (/) those which are are divisible by 3 by not by 9 and the others by (X), by taking the sum of digits, we get:

2133 9 (X)

2343 12 (/)

3474 18 (X)

4131 9 (X)

5286 21 (/)

5340 12 (/)

6336 18 (X)

7347 21 (/)

8115 15 (/)

9276 24 (/)

Required number of numbers = 6

 107 (b)

 108(d)

(1+3)-(1+3)=0, divisible by 11.

 109.Required run rate =6.25

110 .(a)

Total sale for 5 months = Rs. (6435 + 6927 + 6855 + 7230 + 6562) = Rs. 34009.

 Required sale = Rs. [ (6500 x 6) - 34009 ]

 = Rs. (39000 - 34009)

 = Rs. 4991.

111 (a) 2\*3\*5\*7=210

 112(c)

 113 (c)

60+50+40=150

114 (d)

Let the required number of working hours per day be x.

More pumps, Less working hours per day (Indirect Proportion)

Less days, More working hours per day (Indirect Proportion)

Pumps 4:3:: 8 : x

Days 1 : 2

 4 x 1 x x = 3 x 2 x 8

X=12

115 (b)

Let the required number of days be x.

Less persons, More days (Indirect Proportion)

More working hours per day, Less days (Indirect Proportion)

Persons 30 : 39 :: 12 : x

Working hours/day 6 : 5

 30 x 6 x x = 39 x 5 x 12

X=13

116(a)

Let the required weight be x kg.

Less weight, Less cost (Direct Proportion)

250 : 200 :: 60 : x 250 x x = (200 x 60)

X=48

117 (c)

Let the required number of days be x.

Less cows, More days (Indirect Proportion)

Less bags, Less days (Direct Proportion)

Cows 1 : 40 :: 40 : x

Bags 40 : 1

 1 x 40 x x = 40 x 1 x 40

 x = 40.

 118 a)

Required number = H.C.F. of (91 - 43), (183 - 91) and (183 - 43)

 = H.C.F. of 48, 92 and 140 = 4.

 119 (c)

Clearly, the numbers are (23 x 13) and (23 x 14).

 Larger number = (23 x 14) = 322.

 120 (c)

Greatest number of 4-digits is 9999.

L.C.M. of 15, 25, 40 and 75 is 600.

On dividing 9999 by 600, the remainder is 399.

 Required number (9999 - 399) = 9600.