



National Analytical Brains Competition 2024

NAB Competition 2024- Grade 04

Mathematical Ability

All questions are mandatory. Please note there is no negative marking:

- Find the difference between the greatest and smallest number formed by the digits 7, 9, 5, 4, 8, 2, 1, 3, 0 without repeating the digits.
(a) 885198421 (b) 885197421 (c) 885197521 (d) 884197421
- What is the difference between the place value of 9 and face value of 8 in the number 2579832?
(a) 9008 (b) 8892 (c) 8992 (d) 8949
- If one person has seven sons, and each son has eight sons of their own, but one son has not had any children yet, how many grandchildren does the person have?
(a) 56 (b) 48 (c) 49 (d) 50
- If your school starts at 8:45 am and you reached 29 minutes early, then at what time did you reach school?
(a) 8:16 am (b) 8:15 am (c) 8:14 am (d) None of these
- If 457 is written as 547 by mistake, then by how much is it wrong?
(a) 100 (b) 110 (c) 90 (d) None of these
- How many 5 ml spoons of medicine can be obtained from a bottle containing 280 ml of medicine?
(a) 1400 spoons (b) 57 spoons (c) 56 spoons (d) None of these
- There are two boxes, and the first box contains pink marbles, whereas the second box contains red and yellow marbles. The number of pink, red, and yellow marbles are



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- 25678, 3252, and 72905 respectively. Ram threw all yellow marbles out of the box. Find the remaining number of marbles in the first box?
- (a) 25678 (b) 72905 (c) 25930 (d) 3252
8. If $A + B$ is greater than $C + D$, then choose the correct option.
- (a) If A is greater than C , D must be greater than B
(b) If D is greater than A , B must be equal to D
(c) If C is greater than A , B must be greater than D
(d) None of these
9. A book of mathematics has 175 pages. Each of the pages contains 28 questions. Priya solves 25 questions each day. How many days will she take to solve all the questions?
- (a) 206 (b) 196 (c) 202 (d) None of these
10. If the cost of cauliflower is Rs. 92 per kg, what is the cost of 95 kg of cauliflower?
- (a) Rs. 8720 (b) Rs. 8750 (c) Rs. 8740 (d) None of these
11. In the number 54,672, if you add 3,000 and then subtract 2,000, what is the new value of the digit in the thousands place?
- (a) 5 (b) 6 (c) 7 (d) 4
12. If 10 liters of milk cost Rs. 250, what is the cost of 4 liters of milk if the shopkeeper offers a flat rate of Rs. 10 less than the calculated price for those 4 liters?
- (a) ₹100 (b) ₹110 (c) ₹60 (d) ₹90
13. Ramesh has a pencil that is 30 cm long and a ruler that is 15 cm long. If he breaks the pencil into 3 equal pieces, how long will each piece be, and how does it compare to the ruler?
- (a) 8 cm; equal to the ruler (b) 7 cm; longer than the ruler
(c) 10 cm; shorter than the ruler (d) 5 cm; shorter than the ruler



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14. Leena's soccer practice starts at 4:15 PM and lasts for 1 hour and 45 minutes. If she finishes practice and then goes home, arriving at 6:30 PM, how long did she take to get home?
(a) 15 minutes (b) 30 minutes (c) 45 minutes (d) 1 hour
15. When 1 is subtracted from a number we get the _____.
(a) Same number (b) Successor of the number
(c) Predecessor of the number (d) None of these
16. 7 dresses can be made from 44.8 m of cloth. How much cloth is needed for making one dress?
(a) 313.6 m (b) 6.4 m (c) 5.25 m (d) None of these
17. Three children have the following weights:
Child A: 48.516 kg
Child B: 19 kg
Child C: 39.5 kg
If Child A loses 0.5 kg after playing, and Child B gains 1 kg from eating snacks, what is the total weight of the three children after these changes?
(a) 105.016 kg (b) 106.016 kg (c) 104.516 kg (d) 107.516 kg
18. Subtract 346 g from 10 kg.
(a) 9 kg 246 g (b) 9 kg 346 g (c) 9 kg 364 g (d) 9 kg 654 g
19. Anjali was born on 18th April. How old will she be on 30th November of the same year?
(a) 6 months 12 days (b) 7 months 12 days
(c) 8 months 12 days (d) 7 months 10 days
20. You are asked to convert 122 hours and 35 minutes into minutes. However, if you mistakenly added 25 instead of 35 minutes, what would be your answer?
(a) 7,325 minutes (b) 7,360 minutes (c) 7,375 minutes (d) 7,345 minutes







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Logical Reasoning

All questions are mandatory. Please note there is no negative marking:

21. If the code for 'J' = '10', then what is the code for 'O'?
- (a) 14 (b) 15 (c) 17 (d) 11
22. Ruby is facing South and Rishi is facing exactly the opposite direction to what Ruby is facing. Then in which direction is Rishi facing?
- (a) South (b) North (c) North East (d) South West
23. Garima ranked 14th in a class of 50 students from the top. What is her rank from the bottom in the class?
- (a) 36 (b) 14 (c) 35 (d) 37
24. Which one is the exact mirror image of the pattern from the below options?

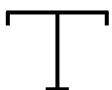


- (a)  (b)  (c)  (d) 

25. Identify the diagram that best represents the relationship among the classes given below: Liquids, Milk, Juice?

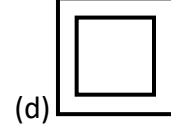
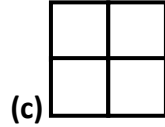
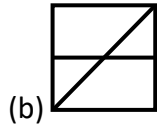
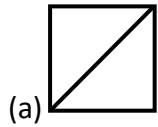
- (a)  (b)  (c)  (d) 

26. In which of the following figures is the shape embedded as one of its parts?





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27. Find the odd one out?

- (a) January (b) May (c) August (d) June

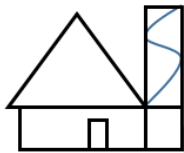
28. Five numbers are given, out of which four are alike in some manner while one is different. Choose the one which is different from the others.

- (a) 6 (b) 12 (c) 18 (d) 9 (e) 7

29. Choose the word which is least like the other words in the group?

- (a) Student (b) Lawyer (c) Mechanic (d) Engineer

30. The curve in the below figure is surrounded by how many straight lines?

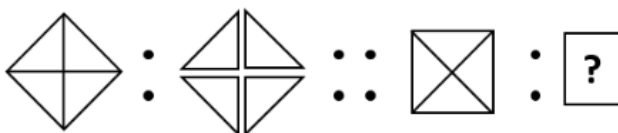


- (a) 4 (b) 3 (c) 2 (d) 1

31. The minute hand moves _____ times round the clock in one day?

- (a) 60 (b) 120 (c) 24 (d) 1444

32. There is a certain relationship between the pair of figures on either side of : : Identify the relationship between the left pair and find the missing figure?





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33. As Tie is related to Neck, Hat is related to _____?

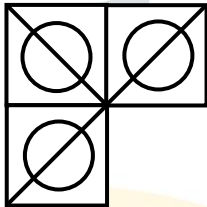
- (a) Hand (b) Legs (c) Head (d) Eyes

34. Complete the below series:

11, 13, 17, 19, 23, 25, ?

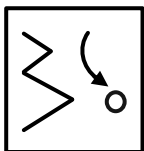
- (a) 26 (b) 29 (c) 31 (d) 28

35. Select a figure from amongst the options which, when placed in the blank space of the figure, would complete the pattern?



- (a) ✓ (b) (c) (d)

36. Choose the water image of the below image from the four alternatives given:



- (a) (b) (c) (d)



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Daily Life Problem:

All questions are mandatory. Please note there is no negative marking:

One sunny Saturday, a group of friends—Rohan, Jayesh, Lavi, and Sofia—decided to spend the day at Central Park. They brought along a picnic, a kite, and their bikes. After arriving at the park, they realized that they had only ₹500 to spend for the whole day. First, they rented four bikes at ₹60 per hour each. They rode for 2 hours around the park's biking trail, which was 3 kilometers long. After their bike ride, they headed to the snack shop and bought sandwiches for ₹40 each and juices for ₹20 each. The four friends also decided to fly their kite for 30 minutes before leaving. As they were packing up, they noticed that they had 15 apples left from their picnic and wanted to share them equally. It was a fun and adventurous day at the park!

41. They biked for 2 hours. How much did the group spend on bike rentals in total?
(a) ₹480 (b) ₹240 (c) ₹120 (d) ₹60
42. If they completed 4 rounds in total of biking, how many kilometers did they bike?
(a) 4 Kilometers (b) 8 Kilometers (c) 2 Kilometers (d) 12 Kilometers
43. If each friend bought one sandwich and one juice, then how much did they spend in total?
(a) ₹60 (b) ₹120 (c) ₹240 (d) None of these
44. How many apples did each friend get at the end of the picnic?
(a) Each friend got 15 apples
(b) Each friend got 3 apples, and there are 5 apples left
(c) Each friend got 5 apples, and there are 3 apples left
(d) Each friend got 3 apples, and there are 3 apples left
45. At the end of the picnic, how much money do they have left?
(a) They do not have enough money left; they are short ₹120.
(b) They do not have enough money left; they are short ₹220.



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- (c) They are left with ₹220.
(d) They are left with ₹120.
46. If the friends wanted to bike for an additional 1.5 hours but only had ₹120 left after the first two hours, how many friends could afford to keep riding for the extra time?
(a) One Only (b) Two Only (c) Three Only (d) All of them
47. Each friend ate 2 apples from their picnic. After buying sandwiches and juices, how many apples and total food items (sandwiches + apples) did each friend eat?
(a) 2 (b) 3 (c) 4 (d) 0
48. The friends spent 2 hours biking, 30 minutes flying a kite, and 1 hour eating and resting. If they arrived at the park at 10:00 AM, what time did they leave?
(a) 2:30 PM (b) 12:30 PM (c) 1:30 PM (d) 11:00 AM
49. Each friend shared the cost of bike rentals and snacks equally. If they had to split the remaining money equally as well, how much more did they need each?
(a) ₹55 (b) ₹220 (c) ₹120 (d) ₹110
50. If one friend decided not to eat any apples from the 15 they had, how many apples would the other three friends get to share equally?
(a) 3 (b) 5 (c) 15 (d) None of the Above