



National Analytical Brains Competition 2023

NAB Competition 2023 - Grade 04

Mathematical Ability

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

1. What does this equation mean?

$$87 = 3 \times 29$$

- 87 is 3 more than 29
- 87 is 3 times as many as 29
- 29 is 3 times as many as 87
- None of the above

2. Teachers collected ₹50 from each of the 110 fourth grade students at the beginning of the year for field trips. The first field trip costs ₹1300. The second field trip costs ₹2150. How much can they spend on the last field trip if they need to have ₹350 left over to wash the bus?

- ₹2050
- ₹1700
- ₹5500
- ₹3450

3. Ms. Navjot's class starts at 8:30 a.m. and finishes at 9:10 a.m.. Students spend twice as much time in math class. If they start math class at 1:10 p.m., what time do they finish math class?

- 2:10 p.m.
- 1:30 p.m
- 2:30 p.m.
- 10:20 p.m.



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4. Five friends were making cards to sell at the Christmas. Each friend made 16 cards. They put all their cards together and then bundled them in groups of 8 cards to sell. How many bundles of 8 cards did they make?

- 10
- 5
- 80
- 2

5. Which unit you would use to measure the amount of water in a very large pitcher?

- milliliter
- kilogram
- liter
- centimeter

6. Rohit bought 3 dozen eggs. His recipe for cookies calls for 4 eggs in each batch. How many batches of cookies can he make with the eggs he bought?

- 12
- 7
- 9
- 10



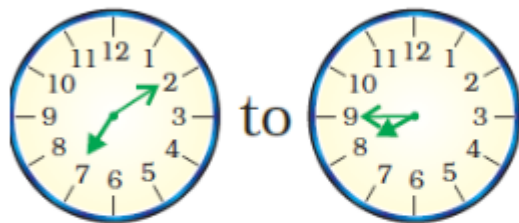
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7. Which pair of numbers add to make more than 500?

- 152 and 241
- 99 and 299
- 321 and 192
- 401 and 99

8.

How long will it take the minute hand to move from:



- 25 minutes
- 35 minutes
- One hour 25 minutes
- 45 minutes

9. Ira's garden has 10 rows of plants. Each row has 15 plants in it. Each plant has 5 flowers on it. How many flowers are in Ira's garden?

- 75
- 150
- 750
- 30



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10. Which number is the closest to 50,038?

- 50,000
- 50,100
- 50,200
- 50,300

11. One fourth of a number can be calculated by:

- Dividing the number by two
- Multiplying the number by 4
- Find the half of number and again find the half
- Multiply the number by 2

12. A worker works for 2 hours in a day and earns a wage of ₹75 per hour. Find the total amount that he will earn in month of Feb 2024.

- 4200
- 4350
- 4500
- 4650

13. Devansh says that 1.06 is bigger than 1.2 because 6 is bigger than 2. Do you agree?

- Yes
- No



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14. Eevan wants an eraser. It costs ₹2. He gives a one-rupee coin, one half-rupee coin and one quarter-rupee coin to the shopkeeper. Is it enough?

- Yes, he has given exact amount
- No, he has given more money
- No, he needs to give more money

15. Aarna teaches tuition so that she can earn money for a new laptop. She charges ₹675 an hour. In April, Aarna taught for 10 hours on one weekend, 12 hours another weekend, and 8 hours during another weekend. How much money did Aarna earn in April?

- ₹6750
- ₹13500
- ₹20250
- None of the above

16. Cost of a Book is ₹53.41, but Nishit has ₹25.70 only. How much more money he will need to buy the book?

- ₹79.11
- ₹27.71
- ₹28.71
- ₹ 29.41



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17. By what number 1679 be divided so that quotient is 239 and remainder is 6?

- 5
- 6
- 7
- 8

18. Fill in the blank:

$$48 \times 29 = (48 \times 20) + (48 \times \underline{\quad})$$

- 29
- 9
- 20
- 1

19. What is the best estimate of the height of the ceiling?

- 10 meters
- 10 feet
- 10 inches
- 10 centimeters



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20.

Agastya and Dev both ran a marathon. Agastya finished in 2 hours, 5 minutes and 13 seconds. Dev finished in 2 hours, 4 minutes and 58 seconds. Who was faster?

By how many seconds?

- Dev is faster by 15 seconds
- Agastya is faster by 15 seconds
- Dev is faster by 45 seconds
- Agastya is faster by 45 seconds



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Logical Reasoning Ability

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

Q 21: Kabir has 6 boxes of chocolates. This table shows how many total chocolates are there in different numbers of boxes.

What is one way to figure out how many total chocolates Kabir has?

| Boxes | Chocolates |
|-------|------------|
| 1 | 6 |
| 2 | 12 |
| 3 | 18 |

- Add 6 to 6
- Multiply 6 by 6
- Divide 36 by 6
- Subtract 6 from 36

Q 22: Which pattern is made in a circle?

1 point



A

B



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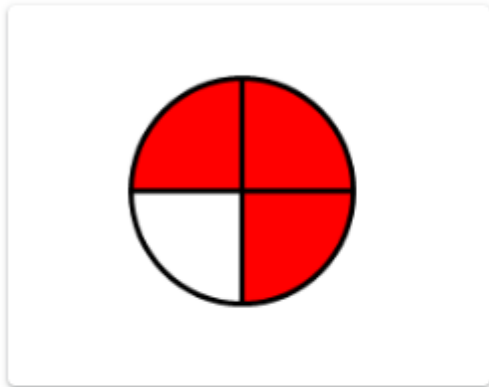
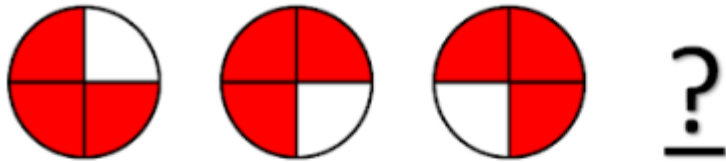
C



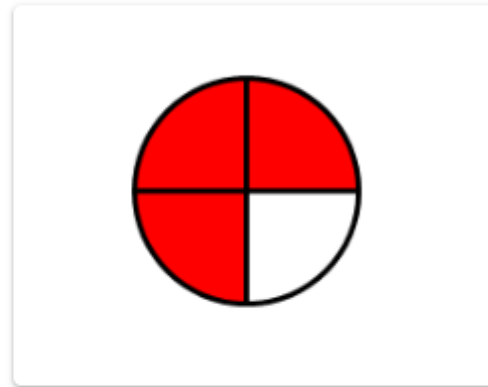
D

Q 23: What will come next in the below pattern?

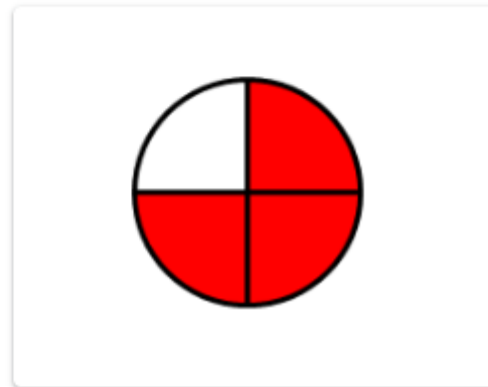
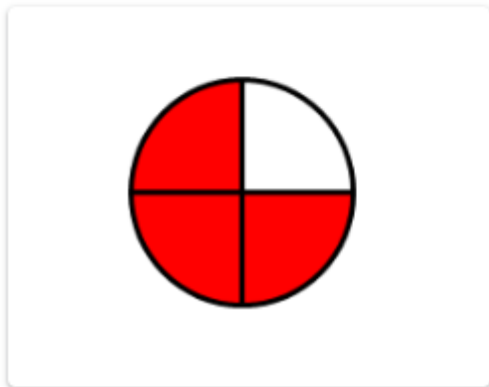
1 point



Option 1



Option 2





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Q 24: Which of them will come in the middle if all of words are arranged alphabetically as in a dictionary

- Heaven
- Hillock
- Hawker
- Hilt
- History

Q 25: Complete the series:

4, 12, 36, 108, ___

- 144
- 216
- 304
- 324

Q 26: Find the odd one out:

- January
- July
- August
- Feberuary



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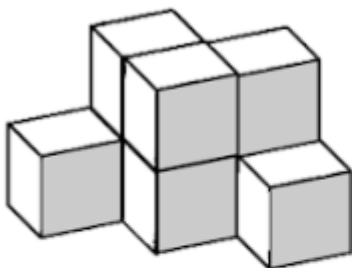
Q 27: If 'DIE' is coded as 'CHD', then 'NET' will be coded as

- MDS
- TEN
- UFO
- SDM
- None of these

Q 28: If 'Book' is called 'Pen', 'Pen' is called 'Cell' and 'Cell' is called 'Copy', then we write with a

- Book
- Pen
- Cell
- Copy
- None of these

Q 29: Count the number of blocks in the below figure:

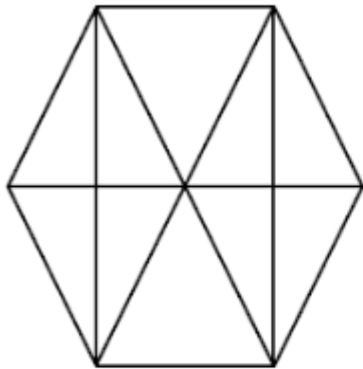


- 8
- 5
- 6
- 18



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Q 30: Find the minimum number of straight lines used in forming the given figure:



- 10
- 8
- 14
- 11

Q 31: fig. (X) is exactly embedded in any one of the four option figures [a], [b], [c] and [d]. Find the option which contains fig.(X) as its part



(X)



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Option 1



Option 2



Option 3



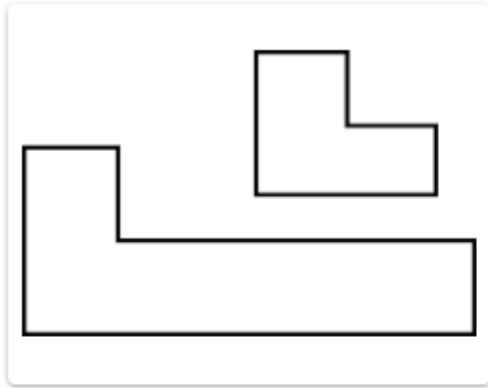
Option 4

Q 32: Which two shapes could be placed together to form the rectangle? 1 point

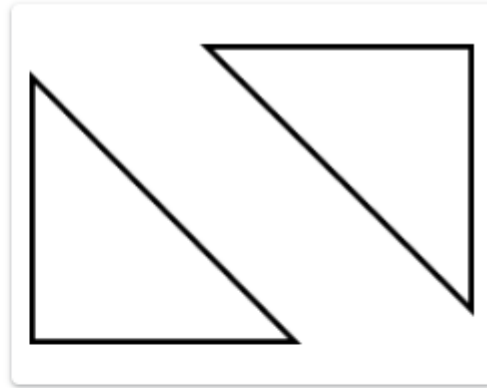




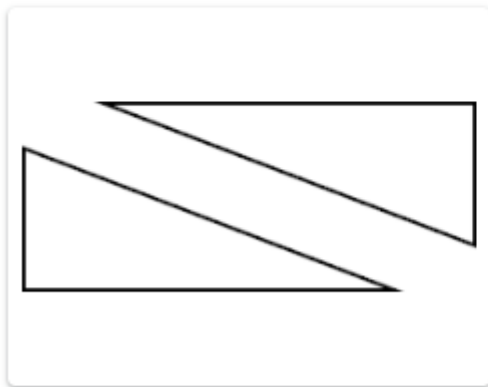
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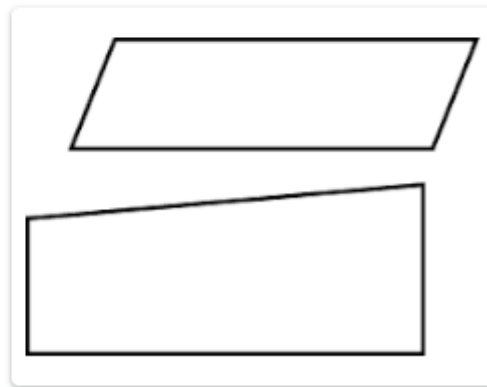
Option 1



Option 2



Option 3



Option 4

Q 33: Vivan and Yash are converting milligrams to centigrams.

Vivan: One centigram is 10 times bigger than one milligram.

Yash: One centigram is 10 times smaller than one decigram

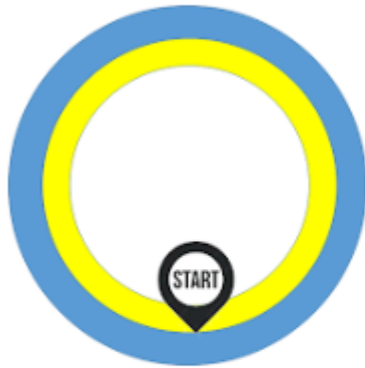
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- Vivan is correct
- Yash is correct
- Both are correct
- Both are wrong



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Q 34: Aryan and Sameer takes part in a race. Aryan runs on Yellow track and Sameer runs on blue Track. Both have same running speed then:



- Aryan will win the race.
- Sameer will win the race.
- Both will reach back at the same time.

Q 35: If the day before yesterday was Thursday, when will Sunday be?

- Today
- Two days after today
- Tomorrow
- Day after tomorrow

Q 36: Solve the following questions using the correct order of operations.

$$5 \times 6 - 9 \div 3$$

- 27
- 15
- 7
- 18



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Q 37: What will come next in the series?

AZA, BYB, CXC, ___

- DTD
- DSD
- DLD
- DWD
- None of These

Q 38. Which balance will go down?



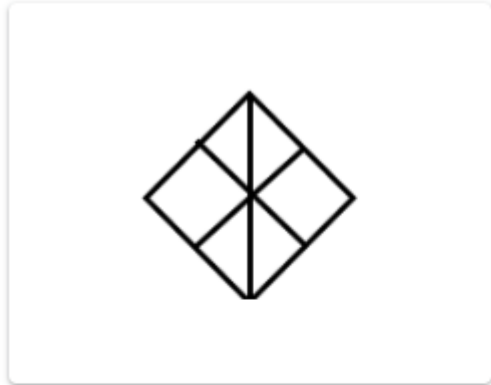
- A
- B
- Both will remain at same position

Q 39: There is a certain relation between figures give on either side of ::, Which figure will replace the question mark?

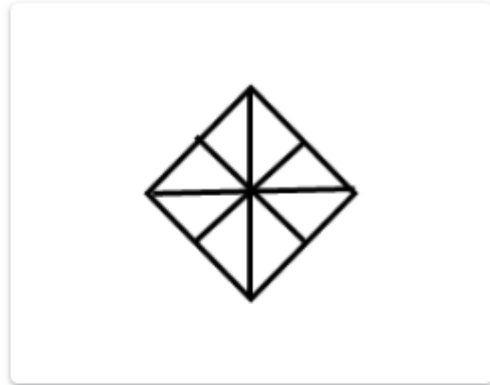




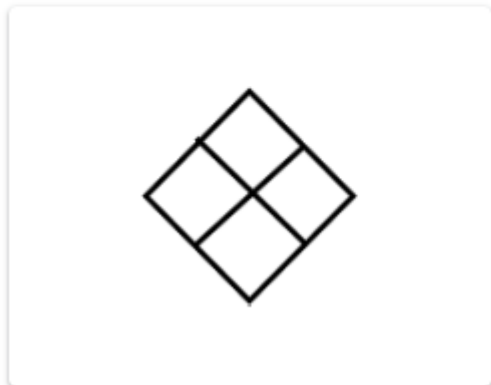
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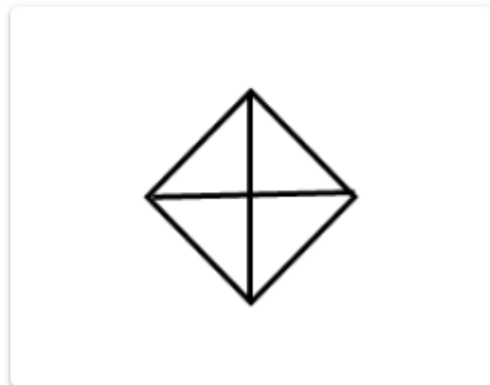
Option 1



Option 2



Option 3



Option 4

Q 40: Which one is the correct mirror image of below word:

ERASER

ERASER ERASER ERASER ERASER

A

B

C

D

- A
- B
- C
- D



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Real Life Problems

Questions from 41 to 45 are co-related:

Adya has 16 stickers.

Niya has 2 times as many stickers as Adya.

Avir has 2 times as many stickers as Niya.

Riya has 16 fewer stickers than Avir.

Q 41: How many stickers does Niya have?

- 16
- 32
- 8
- 48

Q 42: How many stickers does Avir have?

- 16
- 32
- 48
- 64

Q 43: How many stickers does Riya have?

- 16
- 32
- 48
- 64



National Analytical Brains Competition 2023

Q 44: Total how many stickers they have in all?

- 64
- 160
- 128
- 114

Q 45: Who has the highest number of stickers?

- Adya
- Niya
- Avir
- Riya

Q46. Analyzing the below pattern, can you tell what will be the cost of 5 erasers.

| Number of Erasers | Cost |
|-------------------|-------|
| 1 | ₹1.50 |
| 2 | ₹3.00 |
| 3 | ₹4.50 |

- ₹6.00
- ₹5.50
- ₹7.50
- ₹3.50



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Q 47: In the annual day function School expects 500 people will have dinner.
If each table seats 8 people, then how many tables are needed?

- 62
- 63
- 61
- 64

For Questions 48 to 50, use the information in the table.

| Animal | Heart Rates (beats per minute) |
|----------|--------------------------------------|
| Cat | 120 |
| Elephant | 30 |
| Horse | 44 |
| Mouse | 700 |
| Rabbit | 205 |

Q 48: Can you tell how many times does an elephant's heart beat in 1 hour?

- 180
- 1800
- 30
- 300



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Q 49: How many more times does a cat's heart beat in 1 hour than an Elephant's heart?

- 2
- 4
- 6
- Both are equal

Q50. If the animals are arranged in increasing order of their heartbeats, then which animal will come in middle?

- Cat
- Elephant
- Horse
- Mouse
- Rabbit