

MENTAL ABILITY TEST (MAT) PAPER & SOLUTION

In each of the following questions, a number series is given with one of the term missing. Choose the correct alternative that will. Continue the same pattern and replace the question mark (?) in the given series (1 to 10)

1. 21, 23, 27, 33, _____
 (1) 37 (2) 41 (3) 43 (4) 49

Sol. (2)
 $21 + 2 = 23,$
 $23 + 4 = 27$
 $27 + 6 = 33$
 $33 + 8 = 41$

2. 1, 6, 15, _____, 45, 66, 91
 (1) 25 (2) 26 (3) 27 (4) 28

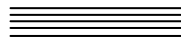
Sol. (4)
 $1 + 5 = 6$
 $6 + 9 = 15$
 $15 + 13 = 28$
 $28 + 17 = 45$
 $45 + 21 = 66$
 $66 + 25 = 91$

3. 2, 6, 12, _____ 30
 (1) 18 (2) 24 (3) 20 (4) 26

Sol. (3)
 $2 + 4 = 6$
 $6 + 6 = 12$
 $12 + 8 = 20$
 $20 + 10 = 30$

4. 107, 97, 82, 62, _____
 (1) 52 (2) 42 (3) 47 (4) 37

Sol. (4)
 $107 - 10 = 97$
 $97 - 15 = 82$



$82 - 20 = 62$

$62 - 25 = 37$

5. 2, 1, 4, 3, 6, 5, 8, _____

(1) 9

(2) 10

(3) 7

(4) 8

Sol. (3)

Alternate series where the difference is 2

6. 8, 3, 11, 14, 25, _____

(1) 50

(2) 39

(3) 29

(4) 11

Sol. (2)

$8 + 3 = 11$

$3 + 11 = 14$

$11 + 14 = 25$

$14 + 25 = 39$

7. 8, 16, 28, 44, _____

(1) 62

(2) 64

(3) 66

(4) 60

Sol. (2)

$8 + 8 = 16$

$16 + 12 = 28$

$28 + 16 = 44$

$44 + 20 = 64$

8. 2, 8, 18, 32, 50, _____

(1) 64

(2) 72

(3) 70

(4) 68

Sol. (2)

$2 + 6 = 8$

$8 + 10 = 18$

$18 + 14 = 32$

$32 + 18 = 50$

$50 + 22 = 72$

9. 1, 3, 7, 15, 31, _____

(1) 37

(2) 36

(3) 73

(4) 63

Sol. (4)

$1 + 2 = 3$

$3 + 4 = 7$

$7 + 8 = 15$

$15 + 16 = 31$

$31 + 32 = 63$

10. 0, 3, 8, 15, 24, _____ 48

(1) 41

(2) 29

(3) 37

(4) 35

Sol. (4)

$0 + 3 = 3$

$3 + 5 = 8$

$8 + 7 = 15$

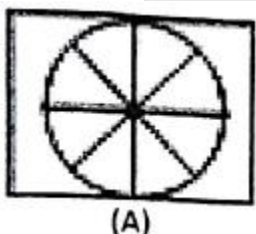
$15 + 9 = 24$

$24 + 11 = 35$

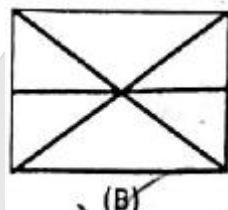
$35 + 13 = 48$

In question No 11 to 15, four figure are given in each. One of the figures differs from the rest.

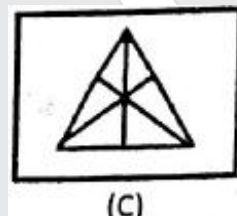
11.



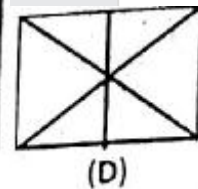
(A)



(B)



(C)



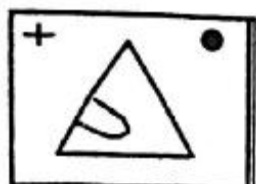
(D)

Sol. (1,2)

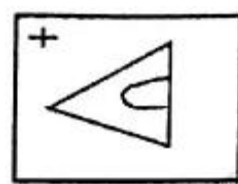
(More accurate) (1) no of lines are maximum.

(2) Pattern of lines are same.

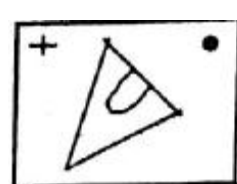
12.



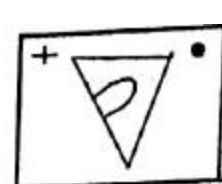
(A)



(B)



(C)

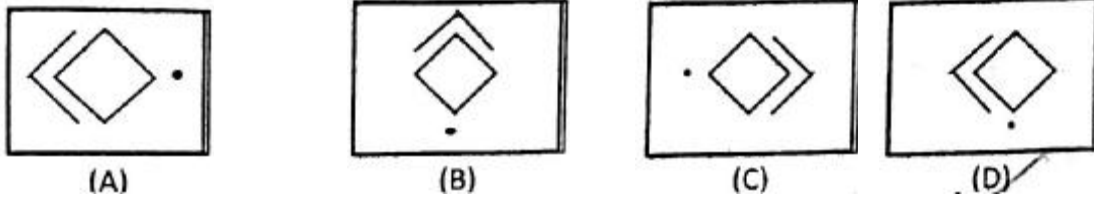


(D)

Sol. (2)

Dot is missing

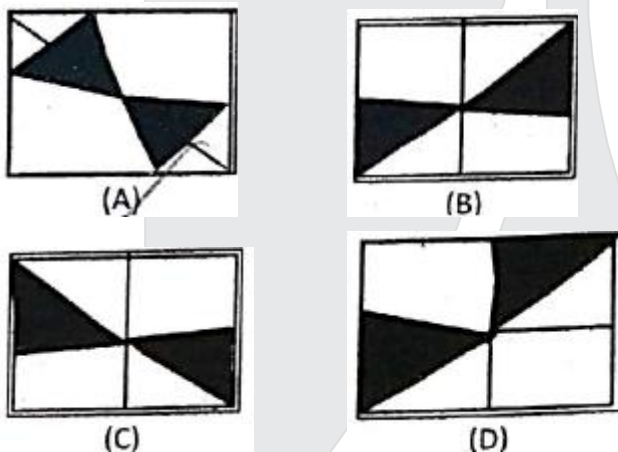
13.



Sol. (4)

Position of dot is different

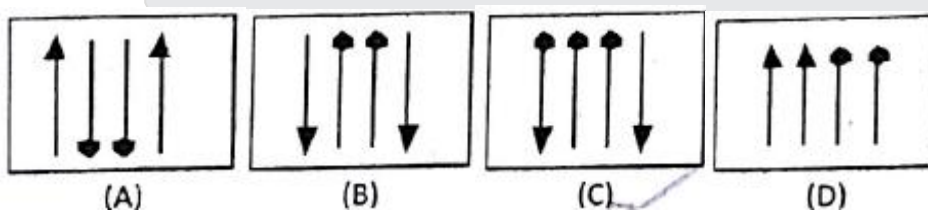
14.



Sol. (1)

Vertical line is not present

15.



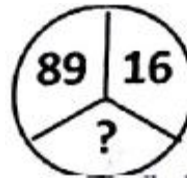
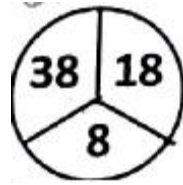
Sol. (3,4)

(3) Number of dots are max. (More accurate)

(4) Lines with dots are not in between lines of arrows.

In question No.16 to 20, figures are given with question mark (?). complete the figure replacing question mark (?) with suitable number logically.

16.



(1) 13

(2) 15

(3) 17

(4) 19

Sol.

(2)

$$25 + 17 = 42/7 = 6$$

$$38 + 18 = 56/7 = 8$$

$$89 + 16 = 105/7 = 15$$

17.

3		48
	51	
?		9

(1) 25

(2) 20

(3) 32

(4) 42

Sol.

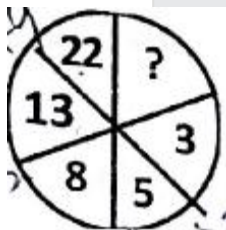
(4)

$$3 + 48 = 51$$

$$9 + x = 51$$

$$x = 42$$

18.



(1) 1

(2) 26

(3) 39

(4) 45

Sol.

(3)

$$3 \times 2 - 1 = 5$$

$$5 \times 2 - 2 = 8$$

$$8 \times 2 - 3 = 13$$

$$13 \times 2 - 4 = 22$$

$$22 \times 2 - 5 = 39$$

19.



(1) 54

(2) 51

(3) 48

(4) 44.

Sol. (1)

$$5 \times 2 + 2 = 12$$

$$12 \times 2 + 2 = 26$$

$$26 \times 2 + 2 = 54$$

$$54 \times 2 + 2 = 110$$

$$110 \times 2 + 2 = 222$$

$$= 54$$

20.

4	3	2
6	9	5
9	27	?

(1) 30

(2) 20

(3) 50

(4) 54

Sol. (BONUS)

In question No.21 to 25, English alphabets are given digital numbers. Using them find the correct code (number) for other English words from options given below

21. If cup = 40 then KITE = _____

(1) 10

(2) 20

(3) 30

(4) 45

Sol. (4)

$$3 + 21 + 16 = 40$$

$$11 + 9 + 20 + 5 = 45$$

22. If ZEBRA = 2652181 then LION = _____

(1) 1291514

(2) 50

(3) 9112514

(4) 2591541

Sol. (1)

$$L - 12, I - 9, O - 15, N - 14$$

23. If BAG = 71 then VICE = _____
 (1) 69 (2) 70 (3) 75 (4) 90

Sol. (1)
 Position are taken from right side $5 + 18 + 24 + 22 = 69$

24. If RAJU = 11-12-13-14 and JUNK = 13-14-10-9 then RANK = _____
 (1) 9-10-11-12 (2) 10-11-12-9 (3) 11-12-10-9 (4) 12-11-10-9

Sol. (3)
 $R = 11, A = 12, N = 10, K = 9$

25. If WORK = 4-12-9-16 then WOMAN = _____
 (1) 4-12-14-26-13 (2) 4-26-14-13-12 (3) 23-12-26-14-13 (4) 23-15-13-1-14

Sol. (1)
 Position are taken from right side $W = 4, O = 12, M = 14, A = 26, N = 13$

In question No.26 to 30, if order of English alphabet is changed, code language is changed, then choose their option from the given option.

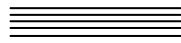
26. If TNELLECXE written instead EXCELLENT then what is written for MARKET ?
 (1) TERKAM (2) TEMARK (3) TEKRAM (4) TEKRMA

Sol. (3)
 All letters are reversed

27. If PQRS is written as KJIH, then EFGH is written as _____
 (1) VUTS (2) STUV (3) SUTV (4) WVUT

Sol. (1)
 Sum of position is 27

E F G H
 5 6 7 8
 | | | |
 22 21 20 19
 V U T S



28. If WXYZ = DCBA then COME = ?
 (1) XKNV (2) XLNV (3) LNVX (4) LXNU

Sol. (2)
 Sum is 27
 C O M E
 3 15 13 5
 | | | |
 24 12 14 22
 X L N V

29. If CARING = EDVGKC and SHARE = UKEPBO then CASKET = ?
 (1) EDXIBP (2) EDWIAP (3) EDWPAI (4) EDWIBP

Sol. (4)
 C A S K E T
 3 1 19 11 5 20
 |+2 |+3 |+4 |-2 |-3 |-4
 5 4 23 9 2 16
 E D W I B P

30. If PICTURE = QHDSVQF then BROWSER = ?
 (1) CQVVTDS (2) CQPVTDS (3) CQPUTDS (4) CQVPPDS

Sol. (2)
 B R O W S E R
 2 18 15 23 19 5 18
 |+1 |-1 |+1 |-1 |+1 |-1 |+1
 3 17 16 22 20 4 19
 C Q P V T D S

31. Study the diagram and find out the number, that lies inside all the figures.



- (1) 2 (2) 5 (3) 9 (4) 1

Sol. (1)

32. Pointing at photo of female, Ashok said " Her father's wife is my wife's mother in law. What is the relation of Ashok with that female in photo ?

- (1) Sister (2) Wife (3) Mother (4) Daughter

Sol. (1)

33. As relation of square with perimeter, what is the relation of circle from following in the same manner ?

- (1) Area (2) Volume (3) Circumference (4) Side

Sol. (3)

34. 423411223412244335341123

In the above series, how many 3's are there such that 4 comes after 3 and 2 comes before 3 ?

- (1) 4 (2) 3 (3) 2 (4) 1

Sol. (3)

423411223412244335341123 (Two pairs)

35. a-curd, b-milk, c-butter-milk, d-butter, are given. From above milk products, what order or logically correct from following option given ?

- (1) bacd (2) abcd (3) dcba (4) acbd

Sol. (1)

36. Shoes : cobbler :: Food – grains : _____

- (1) Trader (2) Farmer (3) Factory (4) Scientist

Sol. (2)

37. On 26 – January – 1947 is Tuesday, then which day on 2-september-1947 ?

- (1) Tuesday (2) Wednesday (3) Thursday (4) Saturday

Sol. (3)

Jan-5, Feb-0, March – 3, April – 2, May – 3, June – 2, July – 3, August – 3, September – 2

$$\text{Number of odd days} = \frac{5+0+3+2+3+2+3+3+2}{7} = 2 \text{ odd days}$$

38. What is the angle between hour hand and minute hand in the clock shows time 8 : 25.

- (1) 90° (2) 102.5° (3) 77.5° (4) 12.5°

Sol. (2)

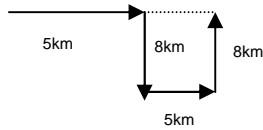
39. Maulik walks 5 km in east direction, then he turns right and walks 8 km, again he turns and walks 5 km, then he turns rest and walks 8 km. Now, how much would he for from his origin ?

- (1) 10 km (2) 18 km (3) 31 km (4) 13 km

Sol. (1)

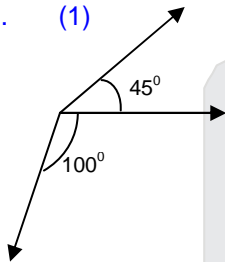
Total distance = 10 km

(Bonus for English medium)



40. If I stand by keeping my mouth in east direction and turn 100° clockwise and then turn again 145° anticlockwise, then in which direction keeping my mouth will stand ?
 (1) North - east (2) South - East (3) North - West (4) West

Sol. (1)



41. In a line of 200 players, Kartikey's sequence is 18^{th} from left side, then what is his sequence order from right side ?
 (1) 182 (2) 183 (3) 184 (4) 218

Sol. (2)

$200 + 1 - 18 = 183$

In question No. 42, 43 and 44 one word differs from the rest. Which one is that ?

42. (1) Kilometer (2) Centimeter (3) Liter (4) Light year

Sol. (3)

All are measuring units of distance

43. (1) Milk (2) Ghee (3) Butter (4) Oil

Sol. (1)

All are products but milk is substance

44. (1) Ahmedabad (2) Gandhinagar (3) Newyork (4) Mumbai

Sol. (3)

All are Indian Cities

45. There is a relation between India and Delhi. Which of the following word has the same type of relation with U.S.A ?

- (1) Mumbai (2) Washington (3) New york (4) Standford

Sol. (2)

Capital of U.S.A = Washington

46. If \times instead of $+$, \div instead of \times , $-$ instead of \div , and $+$ instead of $-$ are considered then what is the answer of following by simplifying ? $18 - (24 \times 3) \div 8$

- (1) 18 (2) 16 (3) 15 (4) 12

Sol. (1)

$$18 + (24 \div 3) - 8$$

$$18 + 8 - 8 = 18$$

47. 30 % of 30 % of a number is 9, what is that number ?

- (1) 200 (2) 100 (3) 300 (4) 18

Sol. (2)

$$\frac{30}{100} \left(\frac{30}{100} (x) \right) = 9$$

$$X = 100$$

48. 2 mangoes = 6 apple, 2 apple = 8 bananas, so instead of buying 1 mango, how many bananas are available ?

- (1) 12 (2) 24 (3) 6 (4) 8

Sol. (1)

$$2 \text{ mangoes} = 6 \text{ apple} = 24 \text{ bananas}$$

$$2 \text{ apple} = 8 \text{ bananas}$$

$$1 \text{ mangoes} = 12 \text{ bananas}$$

49. What would be measure of angle between hour hand and minute hand, when clock shows time 12 o'clock ?

- (1) 180° (2) 0° (3) 90° (4) 45°

Sol. (2)

50. A man passes road of 250 meter broad in 75 second. What is the speed of man in Km/hour ?

- (1) 10 (2) 12 (3) 12.5 (4) 15

Sol. (2)

$$\text{Speed} = \frac{\text{Distance}}{\text{time}}$$

$$= \frac{250}{75} \times \frac{18}{5}$$

$$= 12 \text{ km / hr}$$













Resonance Forward Admission & Scholarship Test (ResoFAST)

Reso FAST  [®]

Be FAST to be the FIRST

EARLY START
MORE BENEFITS
BETTER RESULTS

ADMISSION ANNOUNCEMENT

Enroll Now for Academic Session 2017-18 @ Coaching Fee of 2016-17

Classroom Contact Programs for Class V to XII

Target: JEE (Main+Advanced) | JEE (Main) | AIIMS/ NEET | Pre-foundation

Academic Benefits*

More than **800** Academic Hours & **500** Classes

More than **15000** Academic Questions

More than **100** Testing Hours

Financial Benefits

Upto ₹ **30000+** Saving on 1 Year Course Fee

50% Concession on Admission Form Fee

Upto **90%** Scholarship on Course Fee

Test Dates

20th Nov 16 | 27th Nov 16

11th Dec 16 | 25th Dec 16 | 15th Jan 17

How to get Admission Packet

(a) **Online:** Visit www.resonance.ac.in, and buy ONLINE by paying through Credit/Debit Card & Net Banking, | (b) **In Person:** Through Cash/ DD made in favour of 'Resonance', payable at Kota submit at any of the Resonance Study Centres. | (c) **By Post/ Courier:** Make a DD/Pay Order of required amount in favour of 'Resonance', payable at Kota and send it to at Kota only. | (d) COD (sms RESO Your City Name to 56677).