

**PRATIYOGITA
SAHITYA**

NTSE

Conducted by **NCERT**

NATIONAL TALENT SEARCH EXAMINATION

For Class X

Mental Ability Test (MAT)

Scholastic Aptitude Test (SAT)

- General Intelligence & Reasoning • Science • Mathematics
- Social Science

- ▶ **Solved Paper of Previous Examination**
- ▶ **According to Latest Examination Pattern**

Conducted by N.C.E.R.T.

A Complete Guide For

NATIONAL TALENT SEARCH EXAMINATION

NTSE

For Class X

Paper I : Mental Ability Test (MAT)

Paper II : Scholastic Aptitude Test (SAT)

- SCIENCE • MATHEMATICS • SOCIAL SCIENCE

Salient Features

- According to Latest Examination Pattern
- Solved Paper of Previous Examination (2019)

By
Editorial Board



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Important Information About Examination

• SELECTION PROCEDURE

Identification of talent comprises two-stage selection process. While the individual State/UT conducts the first stage selection, the second stage selection at the national level is carried out by the NCERT.

STATE LEVEL EXAMINATION

Each State/UT conducts its own examination. They have the autonomy to lay down their own norms for the purpose of determining the eligibility of the candidates. This examination is primarily used to recommend a given number of candidates for the second level test to be conducted by the NCERT. This number is based on the enrolment of students at Classes IX and X in different States/UTs. The candidates are to be recommended on the basis of the merit in the written examination conducted by the States/UTs. The details of the number of candidates for different States/UTs as applicable are notified separately.

The State level screening examination is conducted in all State/UTs on first Sunday of November except in Nagaland, Andaman and Nicobar Island, Meghalaya and Mizoram where it will be conducted on first Saturday of November every year until and unless some special circumstances occur.

The addresses of the Liaison Officers of each State/UT are given in Appendix with whom information about state level examination may be sought.

• ELIGIBILITY

All students studying in Class X in any type of recognized school including Kendriya Vidyalaya, Navodaya Vidyalaya, and Sainik School etc. will be eligible to appear at the State Level Examination form the State in which the school is located. However, no domicile restriction shall be imposed. The state may impose any other eligibility condition for appearing in the screening examination like any qualifying percentage of marks in the previous annual examination etc. Students registered under Open and Distance Learning (ODL) are also eligible for scholarship provided the students are below the age of 18 years (as on 1st July of that particular year) the students is not employed and they are appearing in class X for the first time.

• MEDIUM OF EXAMINATION

The medium of the test shall be as announced by the State/UT.

• EXAMINATION

State level examination may have two parts : Part-I Mental Ability Test (MAT) and Part-II Scholastic Aptitude Test (SAT) for nominating the required number of candidates for the second level test to be conducted by the NCERT.

The scheme of testing is given below—

Examination Date	Paper	Test	Timings	Number of Questions	Number of Marks	Time Duration	Qualifying	Selection Criteria
1st Sunday of November (In all the States/UTs of the country except Nagaland, Mizoram, Meghalaya and Andaman & Nicobar exam where will be held on 1st Saturday November month every year)	Paper-I	Mental Ability Test (MAT)	09.30 am to 11.30 am (All candidates except visually Challenged Candidates) 09.30 and to 12.00 noon (Only visually Challenged Candidates)	100	100	120 Minutes	32% SC, ST and PWD and 40% for Other (General & OBC)	<ul style="list-style-type: none"> Only candidates qualifying in both the papers separately will be considered for merit. Selection of the awardees will be made on the basis of total Marks scored in MAT & SAT based on merit. There will be No Negative Marking
	Paper-II	Scholastic Aptitude Test (SAT)	13.30 pm to 15.30 pm (All candidates except visually Challenged Candidates) 13.30 pm to 16.00 pm (Only visually Challenged Candidates)	100 (Science-40, Mathematics-20, Social Science-40)	100	120 Minutes		

* If there is any change in pattern for Stage-II examination then the same will be communicated later on through NCERT website www.ncert.nic.in. Candidates are advised to keep track of updates on NCERT website.

● RESULTS

The State/Union Territory will prepare a merit list of the candidates ensuring the minimum qualifying marks in both the tests separately. These marks are 40 per cent in the case of General and OBC category candidates and 32 per cent in the case of SC/ST/physically challenged candidates.

The result of State Level Talent Search examination is declared in months of January/February by the States/UTs themselves. This examination is used only to recommend the candidates for second level NTS examination conducted by the NCERT. The marks of the State Level Examination are not added to the National Level Examination for award of scholarship. No correspondence will be entertained by the NCERT with regard to first level examination conducted by the State/UT. The candidate having any query/complaint/clarification with regard to the State Level Examination shall have to correspond only with the state examination agencies.

NATIONAL LEVEL EXAMINATION

There is no fee of any kind for appearing in the National Level Examination.

● ELIGIBILITY

The National Talent Search Examination is open for students of Indian nationality whether they study in India or abroad at Class X level.

● CANDIDATES STUDYING IN INDIA

Only the candidates selected by the States/UTs on the basis of their screening examination shall be eligible to appear in the National level examination to be conducted by the NCERT on the **Second Sunday of May each year** (unless otherwise notified). The NCERT will convey the roll number, the venue, the date and time for the national level examination to all such candidates directly through its portal **www.ncert@nic.in**.

● CANDIDATES STUDYING ABROAD

Students of Indian nationality studying abroad at the Class X level may also compete for Talent Search Award under the following conditions :

- (i) The Indian students studying abroad in Class X or equivalent class shall be exempted from the first level-screening test and shall be permitted to appear directly at the second level examination conducted by the NCERT.
- (ii) A candidate shall be eligible to appear in the second level NTS examination only if he or she has obtained at least 60 per cent marks (in aggregate) at the previous annual examination.
- (iii) A candidate will have to appear in the NTS examination at a centre in India at her/his own cost.
- (iv) A candidate desiring to appear in the NTS examination may request through the Head of the Institution where he or she is studying along with an attested copy (by the Head of the Institution) of the mark sheet of Class IX. The request should reach the Head, Department of Educational Survey Division, NCERT, New Delhi-110016 latest by 31st December of the concerned year.
- (v) The Council shall allot roll numbers to the eligible candidates and inform them about the date, time and the venue of examination along with other relevant instructions.
- (vi) No request for change of Centre shall be entertained.
- (vii) If a candidate is selected, the scholarship shall be paid for pursuing studies in India only.
- (viii) Change of center will be permitted in genuine cases and as per instructions issued from NCERT.

● SYLLABUS

There is no prescribed syllabus for the NTS examination. However, the standard of items shall be conforming to the level of Classes IX and X. A separate booklet called 'Learn about the Test' containing sample items for both the Tests-MAT and SAT is available in print as well as on the NCERT website **www.ncert.nic.in**.

● SCHEME OF TESTING

The scheme of testing is given below—

Examination Date	Paper	Test	Timings	Number of Questions	Number of Marks	Time Duration	Qualifying	Selection Criteria
2nd Sunday of May every year (In all the States/UTs of the country)	Paper-I	Mental Ability Test (MAT)	09.30 am to 11.30 am (All candidates except visually Challenged Candidates)	100	100	120 Minutes	32% marks SC, ST and PWD and 40% for Other (General & OBC) Category separately in both papers	<ul style="list-style-type: none"> ● There will be No Negative Marking ● Only candidates qualifying in both the papers separately will be considered for merit. ● Selection of the awardees will be made on the basis of total Marks scored in MAT & SAT based on merit.
	Paper-II	Scholastic Aptitude Test (SAT)	09.30 am to 12.00 noon (only visually Challenged Candidates) 13.30 pm to 15.30 pm (All candidates except visually Challenged Candidates) 13.30 pm to 16.00 pm (Only visually challenged candidates)	100 (Science-40, Mathematics-20, Social Science-40)	100	120 Minutes		

* If there is any change in pattern for Stage-II examination then the same will be communicated later on through NCERT website www.ncert.nic.in. Candidates are advised to keep track of updates on NCERT website.

● WRITTEN EXAMINATION

The written examination shall consist of two paper; Paper-I Mental Ability Test (MAT) and Paper-II Scholastic Aptitude Test (SAT). Both the tests will be administered on the same day.

● MENTAL ABILITY TEST

There shall be 100 multiple-choice type items, with four alternatives. Each item will carry one mark. Candidates are required to answer the items on a separate OMR sheet as per instructions given in the test booklet and on the OMR sheet.

● SCHOLASTIC APTITUDE TEST

The Scholastic Aptitude Test will consist of 100 multiple-choice items of one mark each. Each item shall have four alternatives, out of which only one will be the correct answer. There shall be 40 items from Science, 40 from Social Science and 20 from Mathematics, Candidates are required to answer the items on a separate OMR sheet to be provided at the examination centre as per instructions.

Important Note : Students are allowed to take away question booklets of both the tests (Mental Ability Test and Scholastic Aptitude Test) after the examination.

● MEDIUM

The tests will be available in the following languages: Asamiya, Bangla, English, Gujarati, Hindi, Kannada, Marathi, Malayalam, Odia, Punjabi, Tamil, Telugu and Urdu. The candidate has to mention his option regarding the language in which he/she want to take the test in the application form. Accordingly, the question booklet in that language shall be made available to the candidate at the centre. After exercising this option, no request for the change of medium will be entertained.

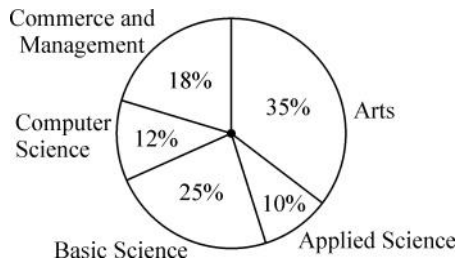
SOLVED PAPERS

NATIONAL TALENT SEARCH EXAMINATION, 2019
(STAGE II : NATIONAL LEVEL)

SOLVED PAPER

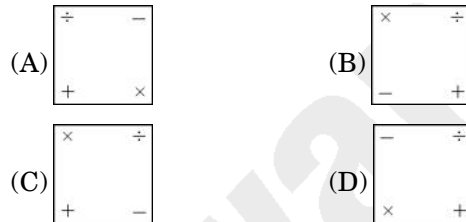
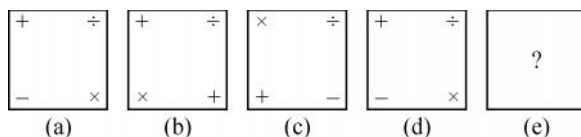
PAPER I : MENTAL ABILITY TEST (MAT)

1. The given pie-diagram shows the streams opted by students at senior-secondary level.

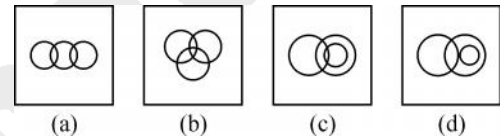


If sum of the angles for the students who opted different streams is 144° , then the streams are

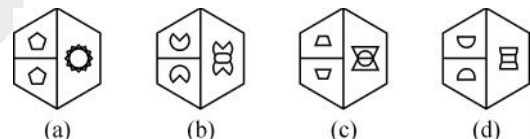
- (A) Arts, Applied Science
(B) Basic Science, Computer Science
(C) Basic Science, Commerce and Management
(D) Applied Science, Computer Science, Commerce and Management
2. Four relation have been given as alternatives (p), (q), (r), (s) out of which only one becomes acceptable if the signs, + and \div and the numbers, 4 and 5 are mutually interchanged. Identify that relation.
- (p) $24 + 8 \times 4 = 20 \div 5$
(q) $20 \div 4 \times 16 + 5 = 75$
(r) $3 \times 24 + 5 = 16 \div 4$
(s) $20 \div 5 - 6 = 3 \times 30 + 4$
- (A) (p) (B) (q)
(C) (r) (D) (s)
3. There are 20 steps to go to the first floor of a building from the ground floor.
A child starts climbing up from the first step of the ground level. Mother starts coming down from the fourth step from the floor level of the first floor.
If both have started at the same time with same speed, at which step would they meet counting from the first step from the floor level of the first floor?
- (A) 9 (B) 10
(C) 11 (D) 12
4. The following question consists of four problem figures marked as A,B, C and D. Select a figures in place of '?' for E which will continue the series established by the four problem figures, A, B, C, D.



5. Which one of the following Venn diagrams represents the relation among men, doctors and patients in a hospital?



- (A) (a) (B) (b)
(C) (c) (D) (d)
6. Observe the figure given below :



The odd one out from the given figure is

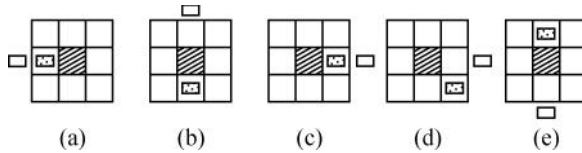
- (A) (a) (B) (b)
(C) (c) (D) (d)
7. A river flows along the East-West direction. On a particular day in the morning Kisku was seen at a place 'A' located on the northern side of the river and on the same evening he was seen at a place 'B' located on the southern side of the river.
Following are the comments made by four friends. Paulomi, Mimee, Sabeena and Grayson.
- I. Paulomi said, Kisku must have crossed the river only once.
II. Sabeena said, Kisku might have crossed the river four times.
III. Mimee said, he might have crossed it five times.
IV. Grayson said, he might have crossed it any number of times.
- Choose the correct alternative from the following.
- (A) Only I is correct
(B) Only II is correct
(C) I or III is correct
(D) Both I and II are correct

Directions (8-9) : Read the information carefully and answer the questions given below.

In a town of 1000 people, 570 read Hindi newspaper, 424 read English newspaper and 254 read Punjabi

newspaper. 40 read Hindi and Punjabi newspaper; 58 read Hindi and English newspaper and 70 read Punjabi and English newspaper. 100 read no newspaper.

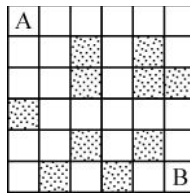
8. How many people read only one newspaper?
 (A) 570 (B) 642
 (C) 914 (D) 968
9. How many people read all the three newspaper?
 (A) 40 (B) 58
 (C) 70 (D) 90
10. Complete the given letter analogy.
 LTFQIW : YGSJVD :: DOIYKV : ?
 (A) QBVIXL (B) WLRBCI
 (C) QLVBXE (D) QBVLXJ
11. Study the figure given below :



Find which figure is to be removed, starting from A, so that all fit into a pattern.

- (A) (b) (B) (c)
 (C) (d) (D) (e)

12. What is the minimum number of un-shaded boxes to be crossed for covering the shortest path from 'A' to 'B' (both exclusive) without retracting the path and without diagonal movements?



- (A) 8 (B) 9
 (C) 10 (D) 11

Directions (13-17) : In the following questions, there are statements followed by conclusions. Choose the conclusion(s) which must logically follows(s) from the given statements :

13. Statements :

- (a) Some candidates are students.
 (b) All children are citizens.
 (c) All citizens are candidates.

Conclusions :

- I. Some citizens are students.
 II. Some candidates are children.
 III. All children are candidates.
 IV. No child is student.

- (A) I and II (B) II and III
 (C) III and IV (D) I, II and III

14. Statements :

- (a) Some students are smart-working.
 (b) All intelligent are smart-working.
 (c) All the teachers are students.

Conclusions :

- I. Some students are intelligent.

- II. No teacher is smart-working.
 III. Some intelligent are students.
 (A) Either I or II (B) I and II
 (C) None of I, II and III (D) I and III

15. Statements :

- (a) Some students are orators.
 (b) All orators are goalkeepers.
 (c) Some goalkeepers are honest.

Conclusions :

- I. Some students are honest.
 II. Some goalkeepers are students.
 (A) Only Conclusion I follows
 (B) Only Conclusion II follows
 (C) Both Conclusions I and II follow
 (D) Neither conclusion I nor II follows

16. Statements :

- (a) Some men are women.
 (b) All women are teachers.
 (c) Some teachers are doctors.

Conclusions :

- I. Some doctors are women.
 II. Some teachers are women.
 III. Some teachers are men.
 IV. Some doctors are men.
 (A) I and II (B) I and IV
 (C) II and III (D) III and IV

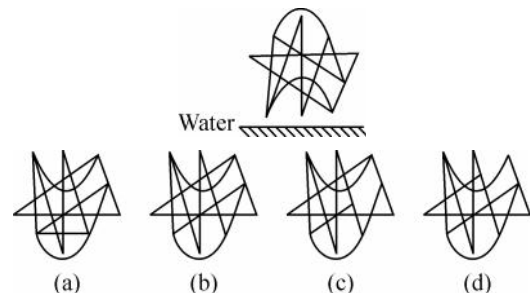
17. Statements :

- (a) Some grandmothers are mothers.
 (b) Some mothers are daughters.
 (c) All the daughters are married women.

Conclusions :

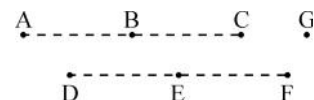
- I. Some married women are mothers.
 II. Some daughters are grandmothers.
 III. No daughter is grandmother.
 IV. Some mothers are grandmothers.
 (A) I and II (B) II and III
 (C) II and IV (D) I and IV

18. Find the correct water image for the following problem figure choosing from the alternatives :



- (A) (a) (B) (b)
 (C) (c) (D) (d)

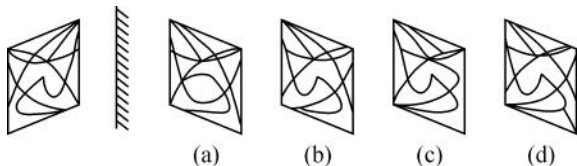
19. Observe the given figure below :



Based on the figure how many maximum numbers of triangles can be formed with the seven points A, B, C, D, E, F and G?

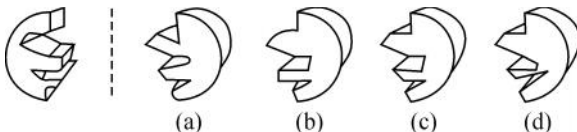
- (A) 21 (B) 24 (C) 33 (D) 36

20. Find the correct mirror image for the following problem figure from the alternatives.



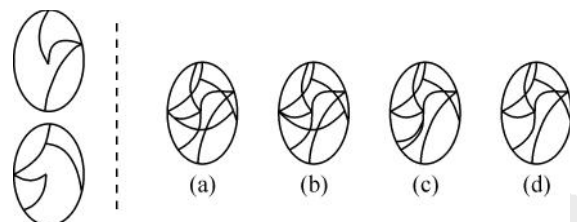
- (A) (a) (B) (b)
(C) (c) (D) (d)

21. A circular disc is cut into two parts. One of the part is given as the question figure. Which is the other part? Select from the options.



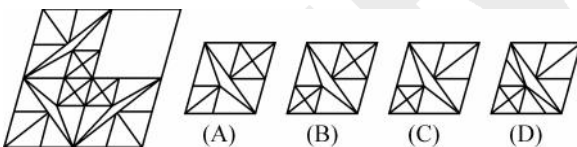
- (A) (a) (B) (b)
(C) (c) (D) (d)

22. Two figures on transparent sheets are given on the left side. When the upper figure is exactly placed on the lower figure, find from the option figures how the resultant looks like.



- (A) (a) (B) (b)
(C) (c) (D) (d)

23. Find the missing part of the given figure from the alternatives which completes the pattern.



- (A) (a) (B) (b)
(C) (c) (D) (d)

Directions (24-26) : Read the information carefully and answer the questions given below :

Five students Ujith, Mahi, Rizan, Sahir and Amelia appeared for an examination in English and Mathematics.

- I. Sahir scored more marks than Amelia in Mathematics but scored less in English than Ujith and Mahi.
- II. In Mathematics Rizan scored more marks than Amelia but less than what Mahi has scored.
- III. Amelia scored more than Rizan in English and Rizan scored more than Mahi in English.
- IV. Ujith scored more than Mahi in Mathematics but less than Rizan in English.
- V. Sahir scored less than Mahi in Mathematics.

24. Which of the following is necessarily correct?

- (A) Rizan scored more than Sahir in Mathematics
- (B) Ujith scored more than Sahir both in Mathematics and English
- (C) Sahir scored more than Ujith in Mathematics
- (D) Rizan scored more than Ujith both in English and Mathematics.

25. The least scorer in Mathematics and top scorer in English are respectively :

- (A) Sahir and Ujith
- (B) Amelia and Amelia
- (C) Ujith and Sahir
- (D) Ujith and Ujith

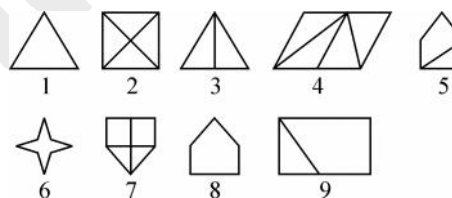
26. Which of the following cannot be determined?

- (A) Amelia scored more than Mahi in English.
- (B) Mahi scored more than Amelia in Mathematics.
- (C) Sahir scored less than Mahi both in Mathematics and English.
- (D) Ujith scored less than Mahi in English.

27. The third day before 1st January, 2019 was Saturday. Which day will the fourth day of March 2020 be?

- (A) Friday (B) Saturday
- (C) Wednesday (D) Thursday

28. Observe the figures given below :



Based on the above figures identify the correct group of categorisation?

- (A) 1, 3, 6; 2, 4, 9; 5, 7, 8
- (B) 1, 2, 3; 4, 5, 8; 6, 7, 9
- (C) 1, 6, 8; 3, 5, 9; 2, 4, 7
- (D) 1, 3, 6; 2, 5, 7; 4, 8, 9

29. Raju invited friend George for a dinner at his house. When George asked for the direction of Raju's house, Raju gave him the following instruction :

Proceed 140 m South from your house then walk 200 m to East. Then turn to North and walk 100 m. After that, walk 160 m to West.

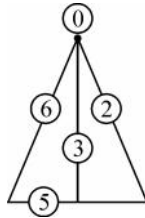
What is the shortest distance between the two houses and the direction to Raju's house from George's house?

- (A) $40\sqrt{2}$ m and North-West
- (B) $40\sqrt{2}$ and South-East
- (C) 80 m and South-East
- (D) 80 m and North-West

30. In a code language if 'APPEAL' is coded as '256572' and 'PLAY' is coded as '7259' then in the same language 'PEARL' will be coded as (each number code stands for unique alphabet).....

- (A) 25768 (B) 25387
- (C) 67522 (D) 25679

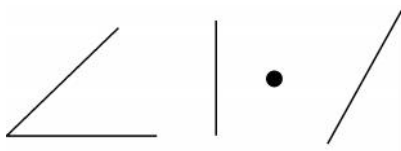
31. Study the figure given below representing a particular number in coded manner.



For example, the number 6825 coded by the following symbols



Based on the above information find the number coded for the following symbols.

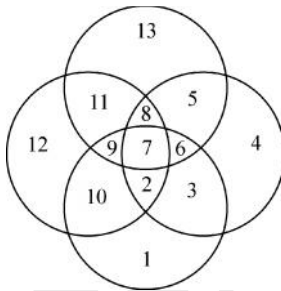


- (A) 63205 (B) 11309
(C) 11523 (D) 65230

32. Five friends decided to play a game of badminton. Each of the five plays against every other friend. The winner gets two points for each game he or she wins and the loser gets zero. Then, which of the following cannot represent the scores of five friends?

- (A) 4, 4, 4, 4, 4 (B) 6, 4, 4, 4, 2
(C) 8, 8, 2, 2, 0 (D) 6, 6, 4, 2, 2

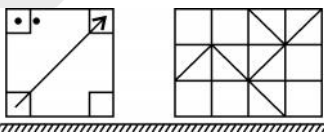
33. Study the given figure and answer the following question :



Let x denote sum of numbers present in at least 2 circles and y denote sum of numbers present in exactly 3 circles. Then $x - y = \dots$

- (A) 11 (B) 25 (C) 36 (D) 61

34. Choose the correct mirror image of the following figure. It the mirror is placed as shown :



- (A) (B) (C) (D)

35. The figure given below is a prepared by some sticks and provides an equation that is incorrect. How many minimum numbers of sticks must be removed from the left hand side to make it a correct equation?

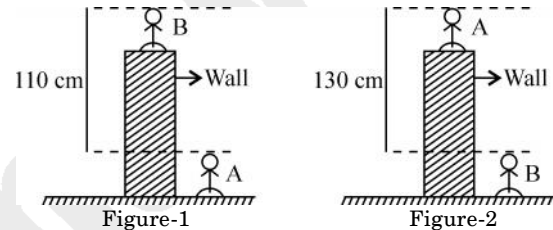
$$86 + 36 + 98 = 100$$

- (A) 1 (B) 2
(C) 3 (D) 4

36. If 63578 is to 1415,
56732 is to 185,
and 34124 is to 86,
then, 72648 is to ?

- (A) 1215 (B) 1415
(C) 1512 (D) 1514

37. Two friends Mr. A and B stand according to figure 1. The two friends then interchange their positions as given in figure 2.



The height of the wall from the ground is

- (A) 115 cm (B) 120 cm
(C) 127.5 cm (D) 130 cm

38. In a certain coding scheme, consonants and vowels are coded differently as illustrated below :

C is coded as 6.

Z is coded as 52.

E is coded as 9.

O is coded as 29.

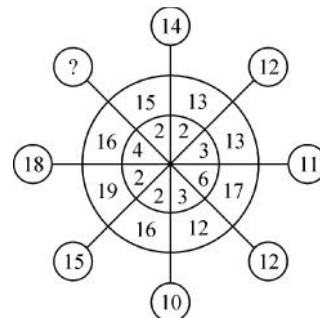
Then find the sum of numerals in the coded version of FAITH.

- (A) 84 (B) 85 (C) 86 (D) 87

39. In a class 20% of students are below 14 yrs of age. Out of the remaining students 10% are of the age 14-15 yrs and ratio of students who are between 15-16 yrs of age to student above 16 yrs of age is 3 : 2. If the number of students who are above 16 yrs is 72, what is the total number of students in the class?

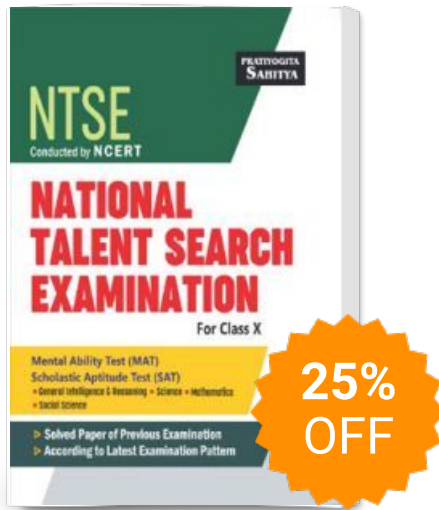
- (A) 200 (B) 250
(C) 300 (D) 400

40. What number should replace the question mark?



- (A) 15 (B) 14 (C) 13 (D) 10

National Talent Search Exam For Class-10



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