

SOF INTERNATIONAL MATHEMATICS OLYMPIAD

Level 2

SOLVED PAPERS

5 Years (2016-2020)

CLASS
5



Copyright © 2020 Science Olympiad Foundation. Printed with the permission of Science Olympiad Foundation. No part of this publication may be reproduced, transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the copyright holder. Ownership of an ebook does not give the possessor the ebook copyright.

All disputes subject to Delhi jurisdiction only.

Disclaimer : The information provided in this book is to give you the path to success but it does not guarantee 100% success as the strategy is completely dependent on its execution and, it is based on previous years' papers of IMO exam.

Published by : MTG Learning Media (P) Ltd.

Corporate Office : Plot 99, 2nd Floor, Sector 44 Institutional Area, Gurugram, Haryana-122003.

Phone : 0124 - 6601200

Web: mtg.in Email: info@mtg.in

Regd. Office : 406, Taj Apt., Ring Road, Near Safdarjung Hospital, New Delhi-110029

Visit www.mtg.in for buying books online.

Do you want yourself to be updated about

- NEW arrivals at MTG Book Store
- Special offers on MTG Books and Magazines
- Exams alerts, frequently asked questions (FAQs)
- Important questions for forthcoming examinations
- Study tips, quizzes, flowcharts, learning strategies, news from science world, and much more...



Like us on
Facebook

<https://www.facebook.com/pcmbtoday>

Subscribe to our
**YouTube
Channel**



<https://www.youtube.com/MTGBOOKS>

BLOG

Subscribe us on **blog.pcmbtoday.com**

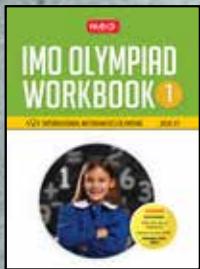
MTG WORKBOOKS / OLYMPIAD BOOKS

Check complete details on www.mtg.in

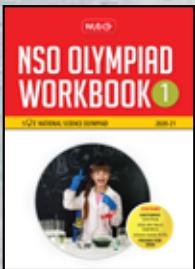
CLASS
1

For latest releases and revised editions

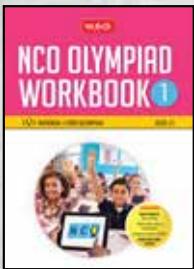
[CLICK HERE](#)



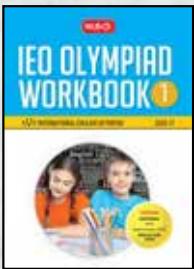
International Mathematics Olympiad



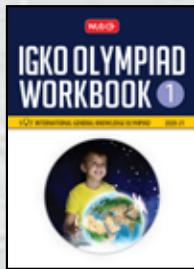
National Science Olympiad



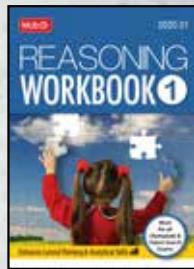
National Cyber Olympiad



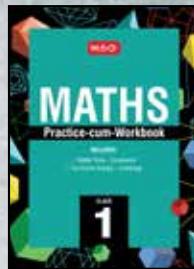
International English Olympiad



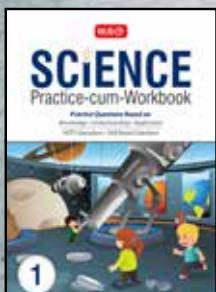
International General Knowledge Olympiad



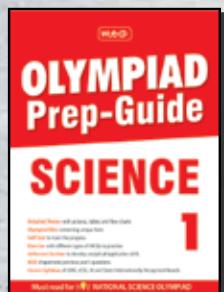
Reasoning



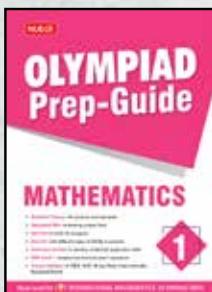
Maths Practice-cum-Workbook



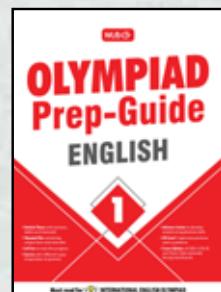
Science Practice-cum-Workbook



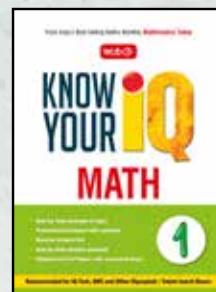
Olympiad Prep-Guide Science



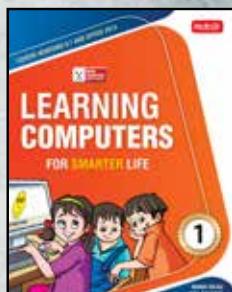
Olympiad Prep-Guide Mathematics



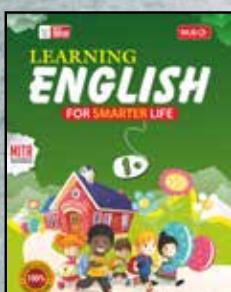
Olympiad Prep-Guide English



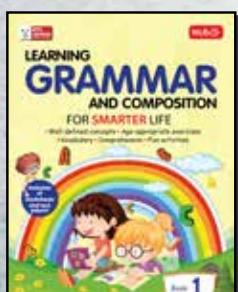
Know Your IQ Math



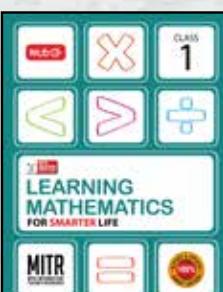
Learning Computers



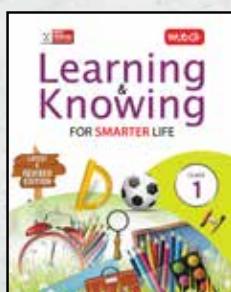
Learning English



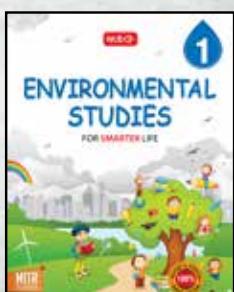
Learning Grammar



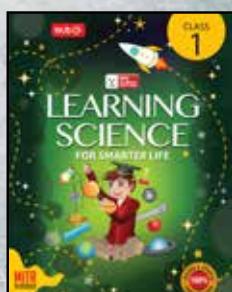
Learning Mathematics



Learning & Knowing



EVS



Learning Science

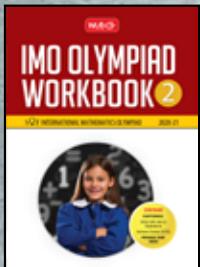
MTG WORKBOOKS / OLYMPIAD BOOKS

Check complete details on www.mtg.in

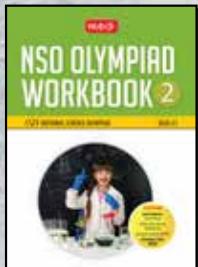
CLASS
2

For latest releases and revised editions

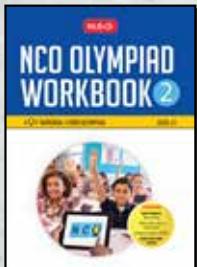
[CLICK HERE](#)



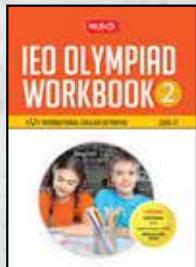
International
Mathematics
Olympiad



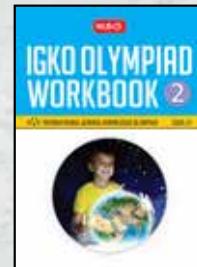
National
Science
Olympiad



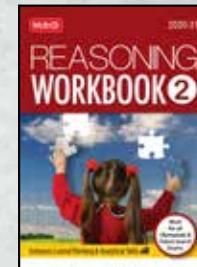
National Cyber
Olympiad



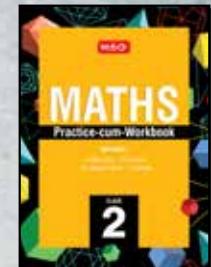
International
English
Olympiad



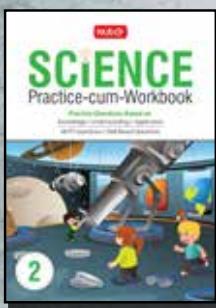
International
General Knowledge
Olympiad



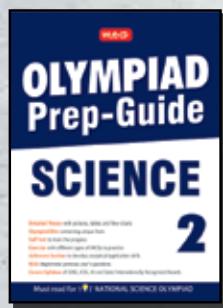
Reasoning



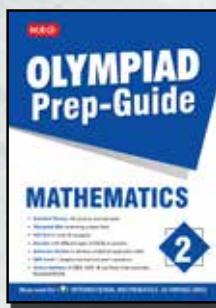
Maths
Practice-cum-
Workbook



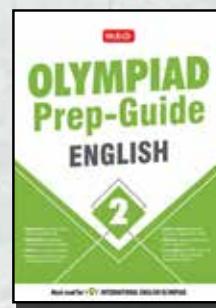
Science
Practice-cum-
Workbook



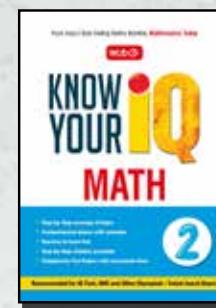
Olympiad
Prep-Guide
Science



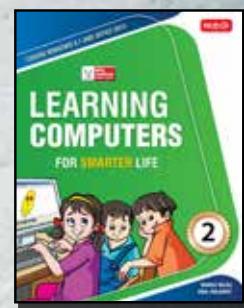
Olympiad
Prep-Guide
Mathematics



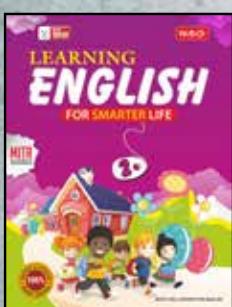
Olympiad
Prep-Guide
English



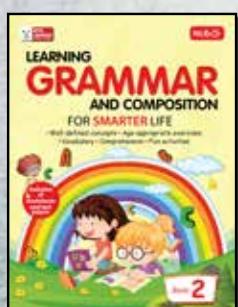
Know Your IQ
Math



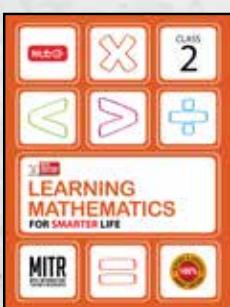
Learning
Computers



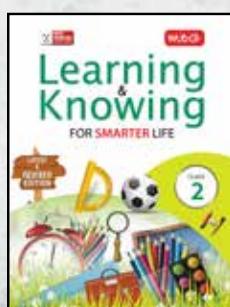
Learning
English



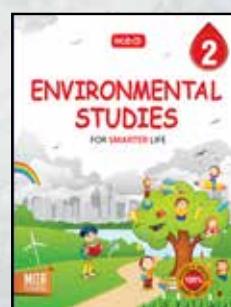
Learning
Grammar



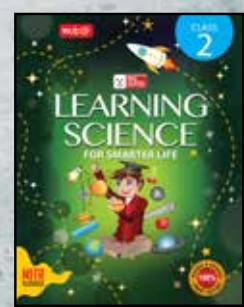
Learning
Mathematics



Learning &
Knowing



EVS



Learning
Science

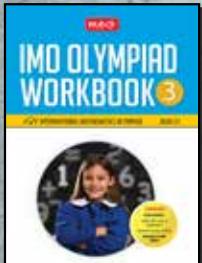
MTG WORKBOOKS / OLYMPIAD BOOKS

Check complete details on www.mtg.in

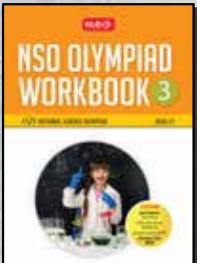
CLASS
3

For latest releases and revised editions

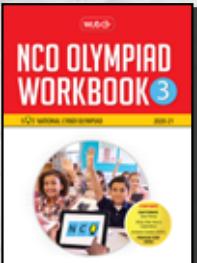
[CLICK HERE](#)



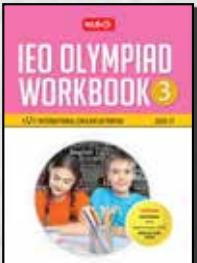
International Mathematics Olympiad



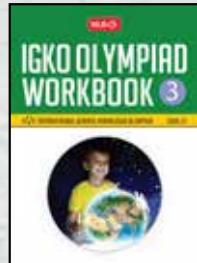
National Science Olympiad



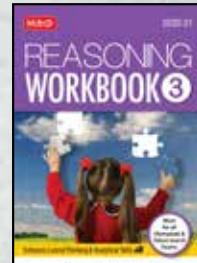
National Cyber Olympiad



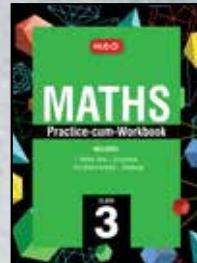
International English Olympiad



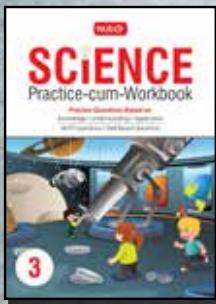
International General Knowledge Olympiad



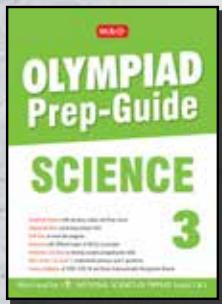
Reasoning



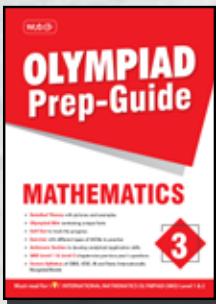
Maths Practice-cum-Workbook



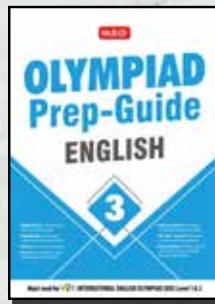
Science Practice-cum-Workbook



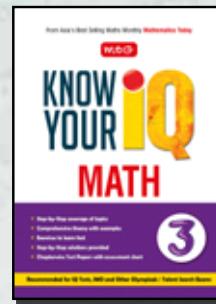
Olympiad Prep-Guide Science



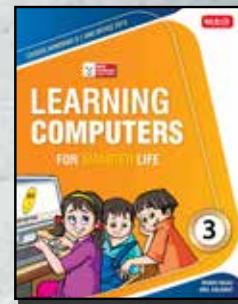
Olympiad Prep-Guide Mathematics



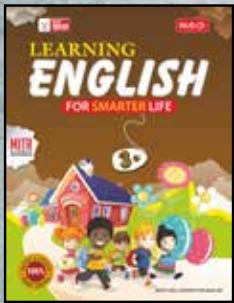
Olympiad Prep-Guide English



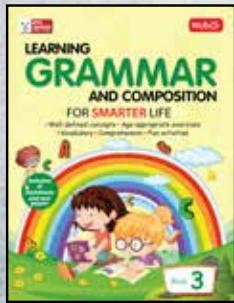
Know Your IQ Math



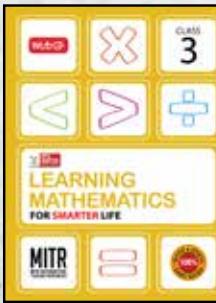
Learning Computers



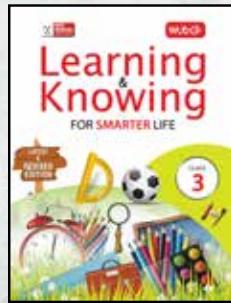
Learning English



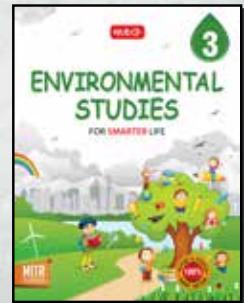
Learning Grammar



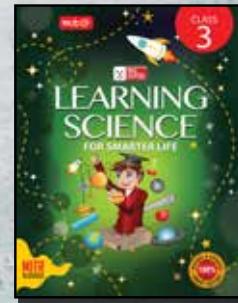
Learning Mathematics



Learning & Knowing



EVS



Learning Science

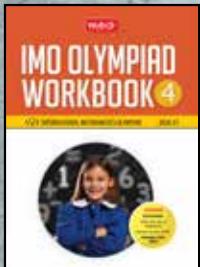
MTG WORKBOOKS / OLYMPIAD BOOKS

Check complete details on www.mtg.in

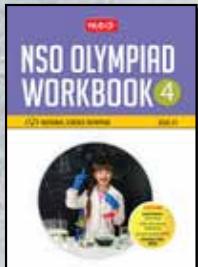
CLASS
4

For latest releases and revised editions

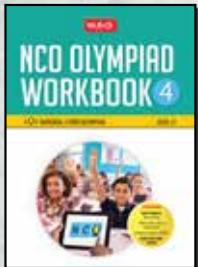
[CLICK HERE](#)



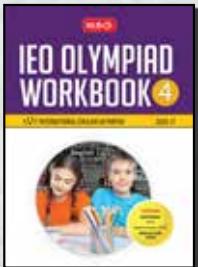
International Mathematics Olympiad



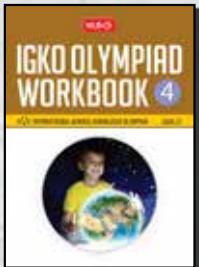
National Science Olympiad



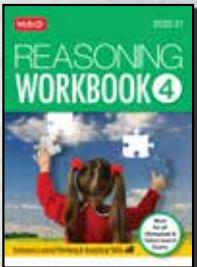
National Cyber Olympiad



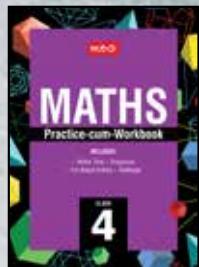
International English Olympiad



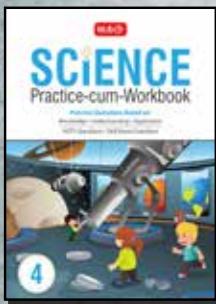
International General Knowledge Olympiad



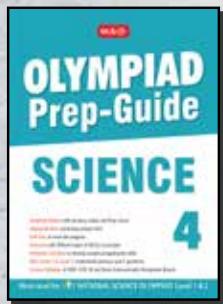
Reasoning



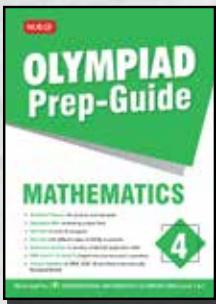
Maths Practice-cum-Workbook



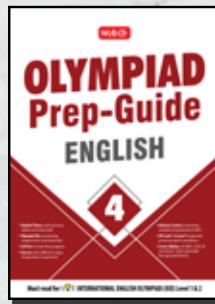
Science Practice-cum-Workbook



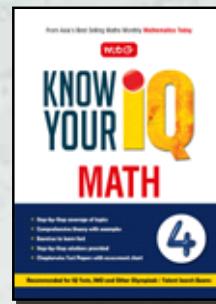
Olympiad Prep-Guide Science



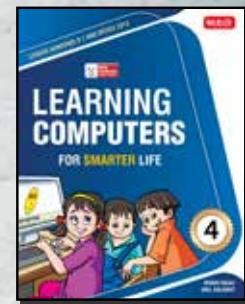
Olympiad Prep-Guide Mathematics



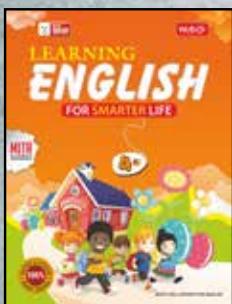
Olympiad Prep-Guide English



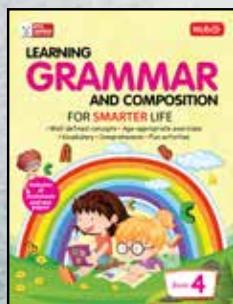
Know Your IQ Math



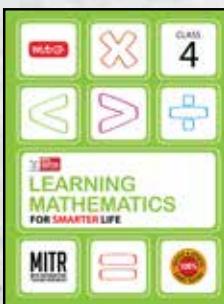
Learning Computers



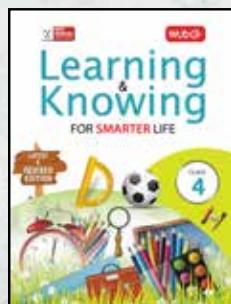
Learning English



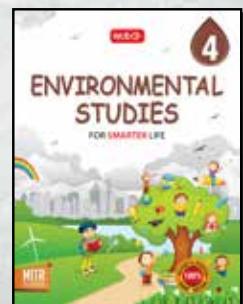
Learning Grammar



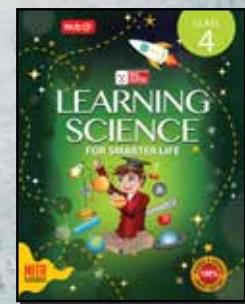
Learning Mathematics



Learning & Knowing



EVS



Learning Science

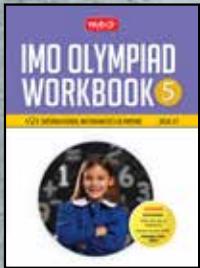
MTG WORKBOOKS / OLYMPIAD BOOKS

Check complete details on www.mtg.in

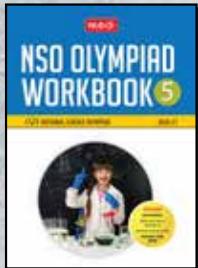
CLASS
5

For latest releases and revised editions

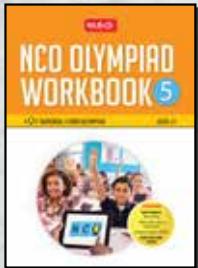
[CLICK HERE](#)



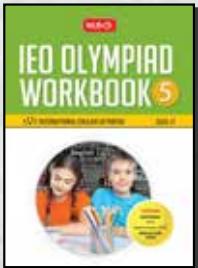
International Mathematics Olympiad



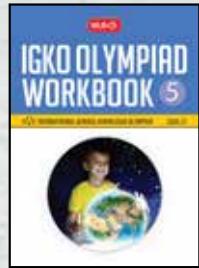
National Science Olympiad



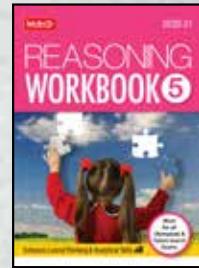
National Cyber Olympiad



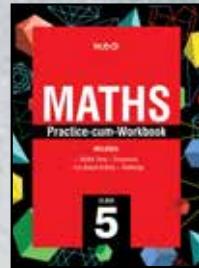
International English Olympiad



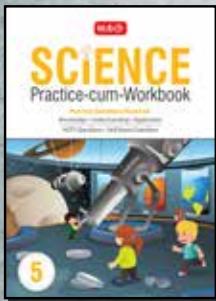
International General Knowledge Olympiad



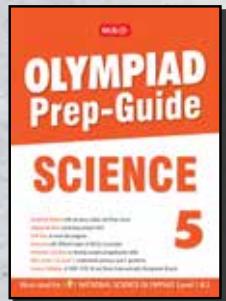
Reasoning



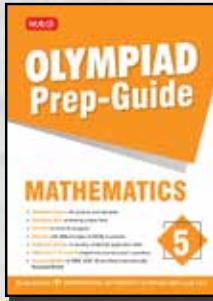
Maths Practice-cum-Workbook



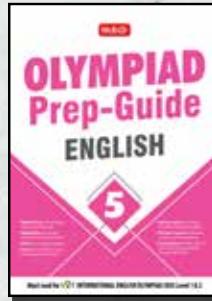
Science Practice-cum-Workbook



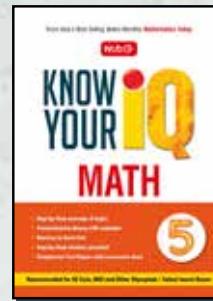
Olympiad Prep-Guide Science



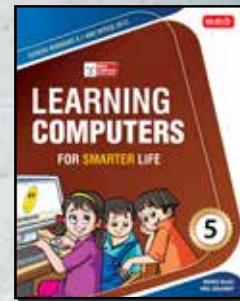
Olympiad Prep-Guide Mathematics



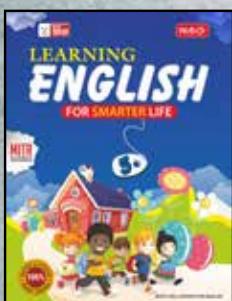
Olympiad Prep-Guide English



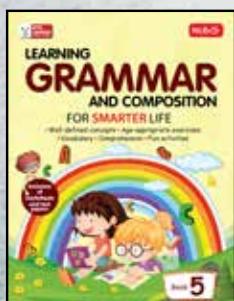
Know Your IQ Math



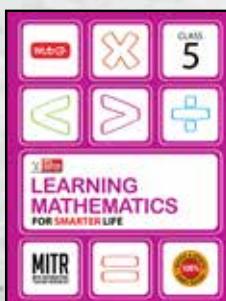
Learning Computers



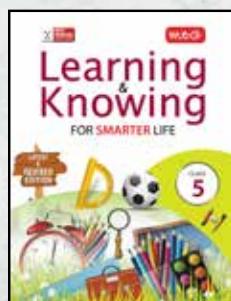
Learning English



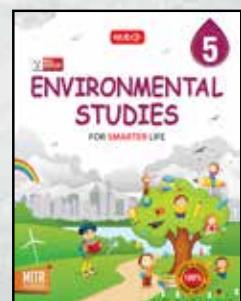
Learning Grammar



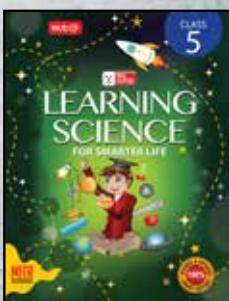
Learning Mathematics



Learning & Knowing



EVS



Learning Science

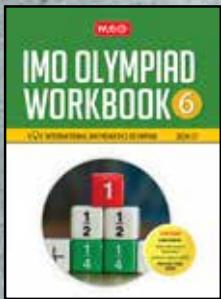
MTG WORKBOOKS / OLYMPIAD BOOKS

Check complete details on www.mtg.in

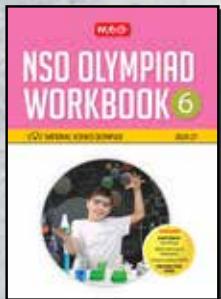
CLASS
6

For latest releases and revised editions

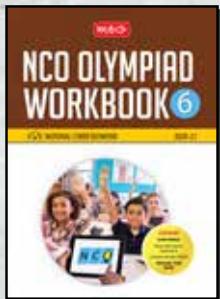
[CLICK HERE](#)



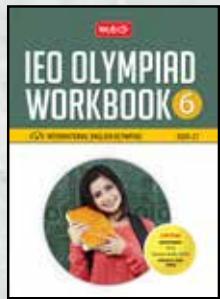
International Mathematics Olympiad



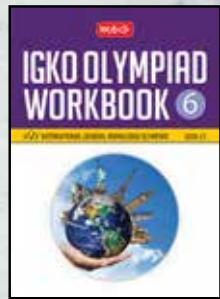
National Science Olympiad



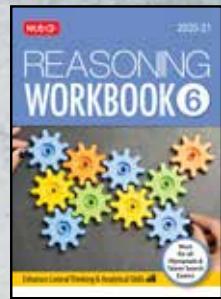
National Cyber Olympiad



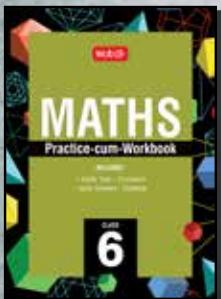
International English Olympiad



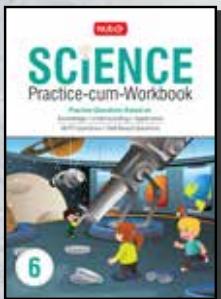
International General Knowledge Olympiad



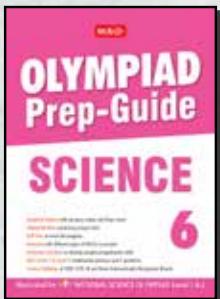
Reasoning



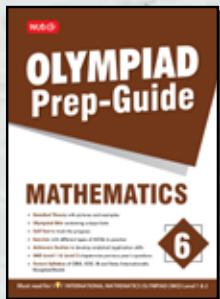
Maths Practice-cum-Workbook



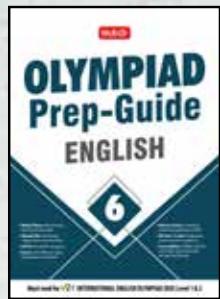
Science Practice-cum-Workbook



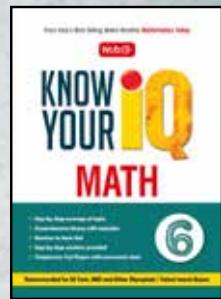
Olympiad Prep-Guide Science



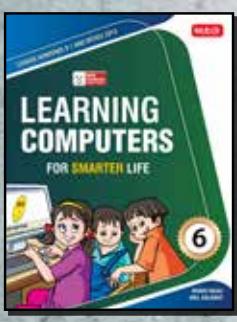
Olympiad Prep-Guide Mathematics



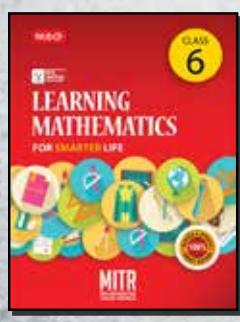
Olympiad Prep-Guide English



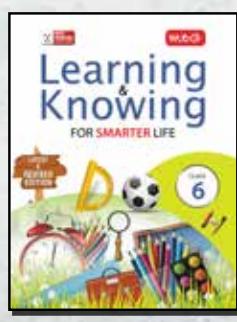
Know Your IQ Math



Learning Computers



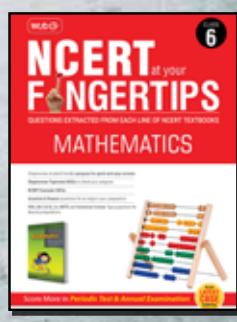
Learning Mathematics



Learning & Knowing



NCERT at your Fingertips Science



NCERT at your Fingertips Mathematics

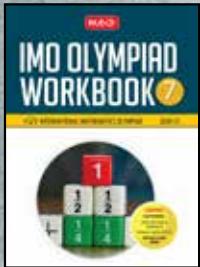
MTG WORKBOOKS / OLYMPIAD BOOKS

Check complete details on www.mtg.in

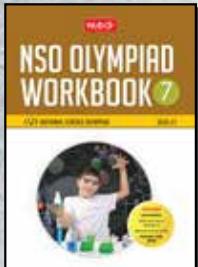
CLASS
7

For latest releases and revised editions

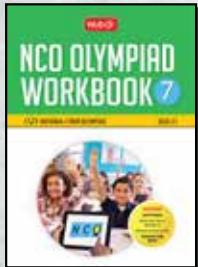
[CLICK HERE](#)



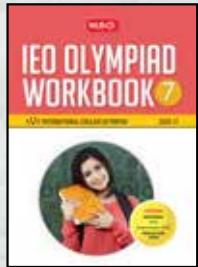
International Mathematics Olympiad



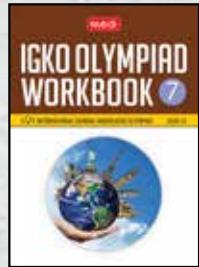
National Science Olympiad



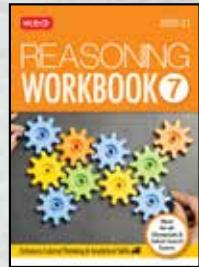
National Cyber Olympiad



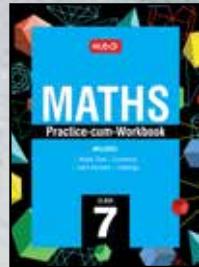
International English Olympiad



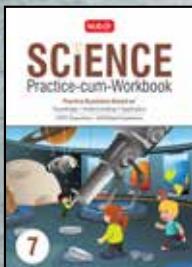
International General Knowledge Olympiad



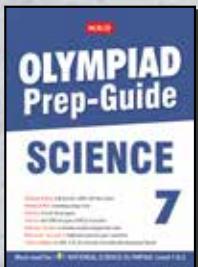
Reasoning



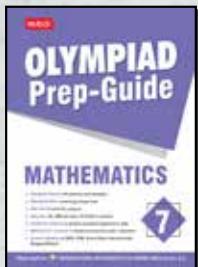
Maths Practice-cum-Workbook



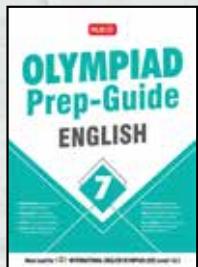
Science Practice-cum-Workbook



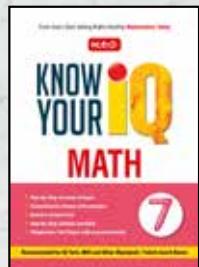
Olympiad Prep-Guide Science



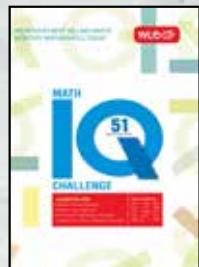
Olympiad Prep-Guide Mathematics



Olympiad Prep-Guide English



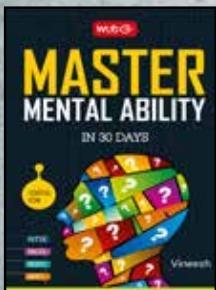
Know Your IQ Math



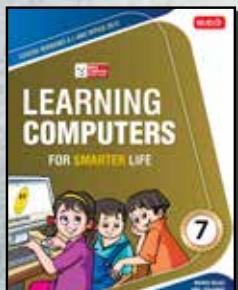
Math IQ Challenge



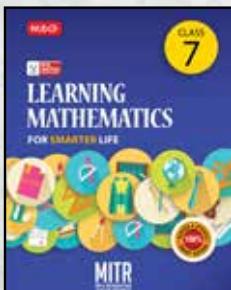
Science IQ Challenge



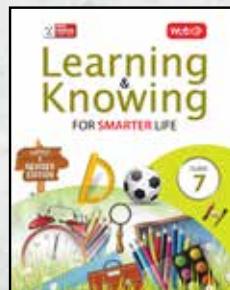
Master Mental Ability in 30 Days



Learning Computers



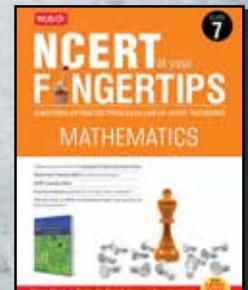
Learning Mathematics



Learning & Knowing



NCERT at your Fingertips Science



NCERT at your Fingertips Mathematics

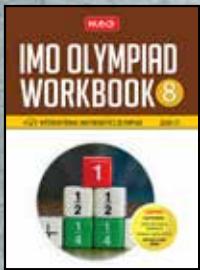
MTG WORKBOOKS / OLYMPIAD BOOKS

Check complete details on www.mtg.in

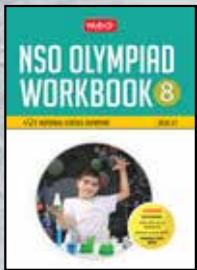
CLASS
8

For latest releases and revised editions

[CLICK HERE](#)



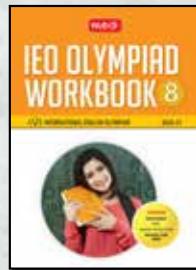
International
Mathematics
Olympiad



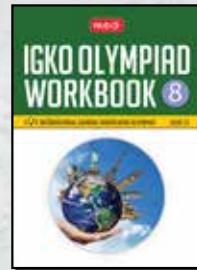
National
Science
Olympiad



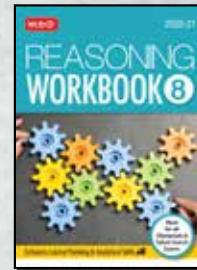
National Cyber
Olympiad



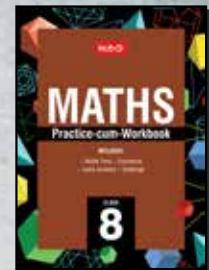
International
English
Olympiad



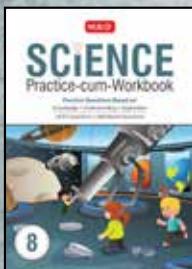
International General
Knowledge Olympiad



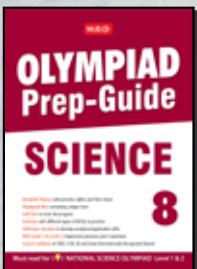
Reasoning



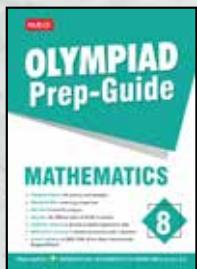
Maths
Practice-cum-
Workbook



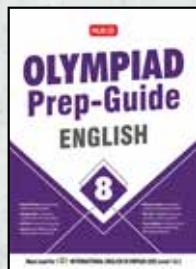
Science
Practice-cum-
Workbook



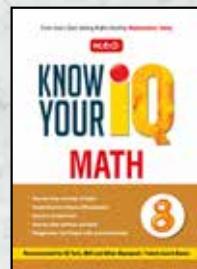
Olympiad
Prep-Guide
Science



Olympiad
Prep-Guide
Mathematics



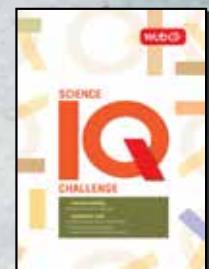
Olympiad
Prep-Guide
English



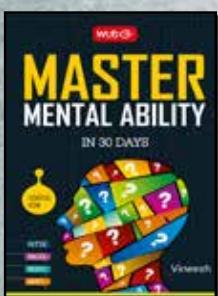
Know Your IQ
Math



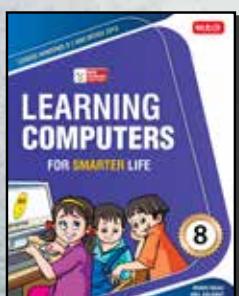
Math IQ
Challenge



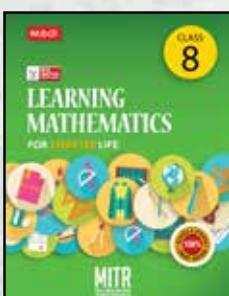
Science IQ
Challenge



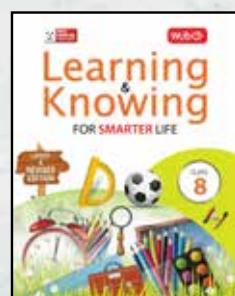
Master Mental
Ability in 30 Days



Learning
Computers



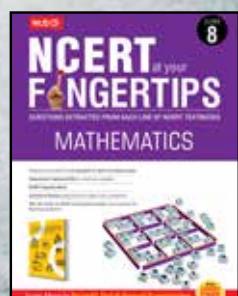
Learning
Mathematics



Learning &
Knowing



NCERT at your
Fingertips Science



NCERT at your
Fingertips Mathematics

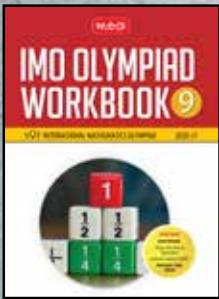
MTG WORKBOOKS / OLYMPIAD BOOKS

Check complete details on www.mtg.in

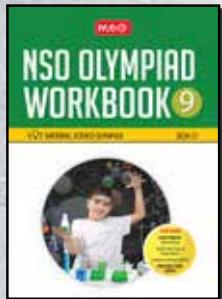
CLASS
9

For latest releases and revised editions

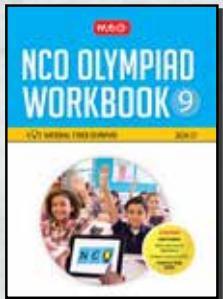
[CLICK HERE](#)



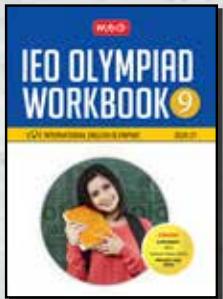
International
Mathematics
Olympiad



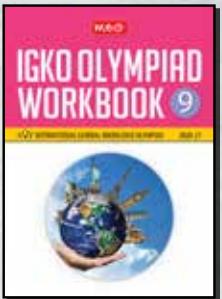
National
Science
Olympiad



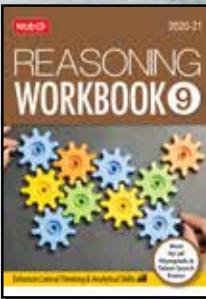
National Cyber
Olympiad



International
English
Olympiad



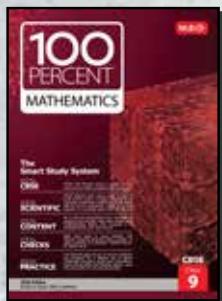
International
General Knowledge
Olympiad



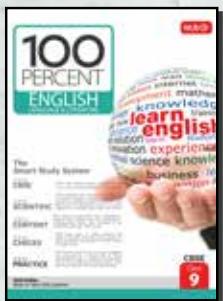
Reasoning



100 PERCENT
Science



100 PERCENT
Mathematics



100 PERCENT
English



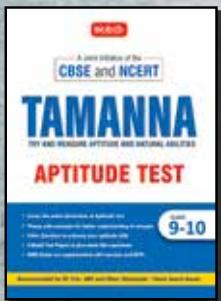
100 PERCENT
Social Science



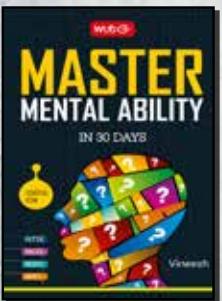
Math IQ
Challenge



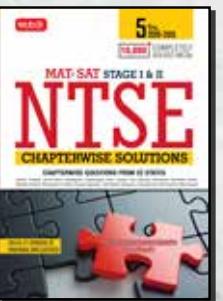
Science IQ
Challenge



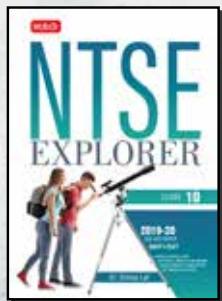
TAMANNA
Aptitude Test



Master Mental
Ability in 30 Days



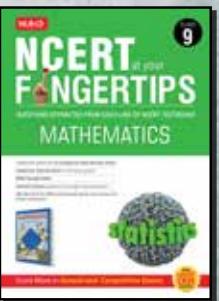
NTSE Chapterwise



NTSE Explorer



NCERT at your
Fingertips Science



NCERT at your
Fingertips Mathematics

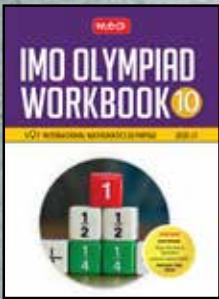
MTG WORKBOOKS / OLYMPIAD BOOKS

Check complete details on www.mtg.in

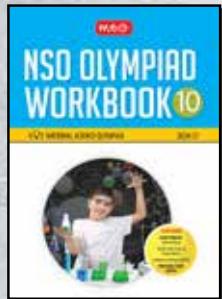
CLASS
10

For latest releases and revised editions

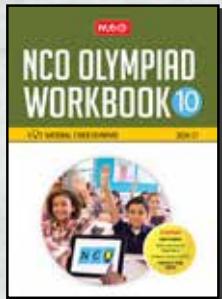
[CLICK HERE](#)



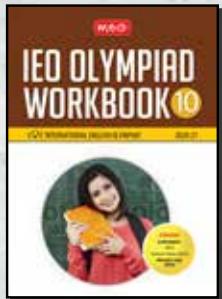
International
Mathematics
Olympiad



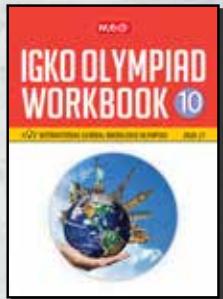
National
Science
Olympiad



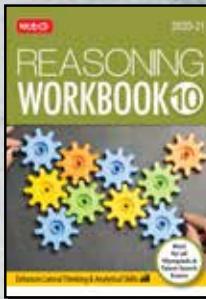
National Cyber
Olympiad



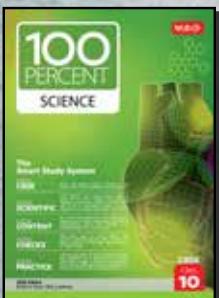
International
English
Olympiad



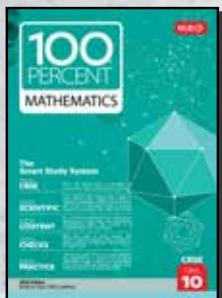
International
General Knowledge
Olympiad



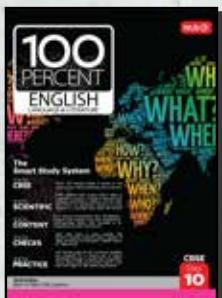
Reasoning



100 PERCENT
Science



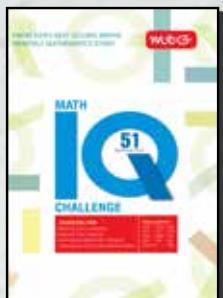
100 PERCENT
Mathematics



100 PERCENT
English



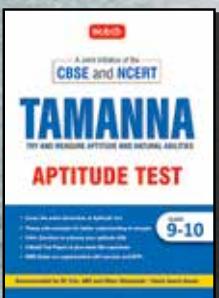
100 PERCENT
Social Science



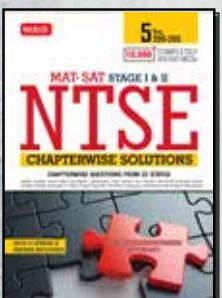
Math IQ
Challenge



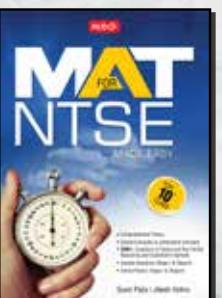
Science IQ
Challenge



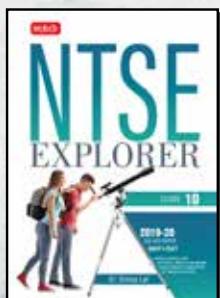
TAMANNA
Aptitude Test



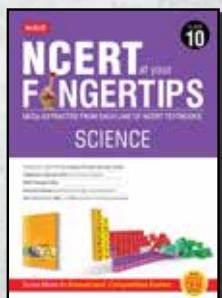
NTSE Chapterwise



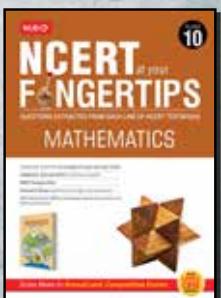
MAT for NTSE



NTSE Explorer



NCERT at your
Fingertips Science



NCERT at your
Fingertips Mathematics

NCERT

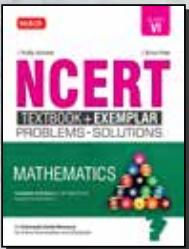
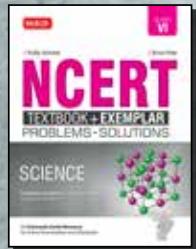
TEXTBOOK+EXEMPLAR PROBLEMS-SOLUTIONS

For Classes 6, 7, 8, 9, 10, 11 & 12

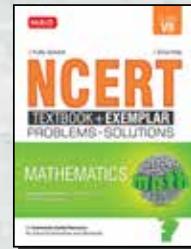
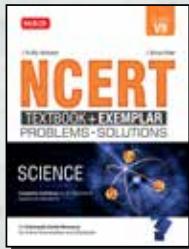
For latest releases and revised editions

[CLICK HERE](#)

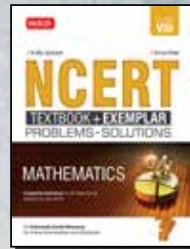
Class 6



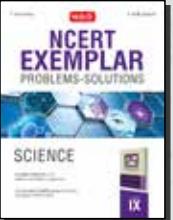
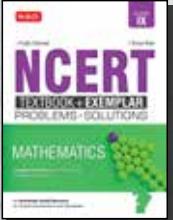
Class 7



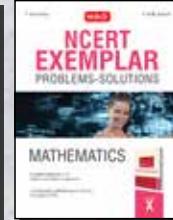
Class 8



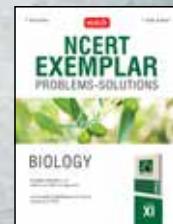
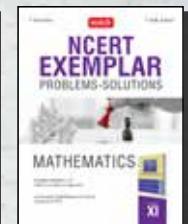
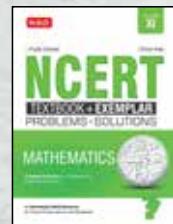
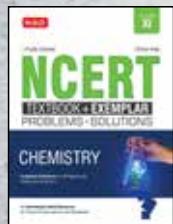
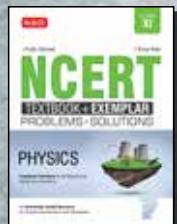
Class 9



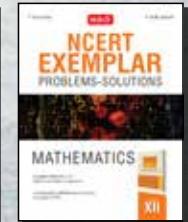
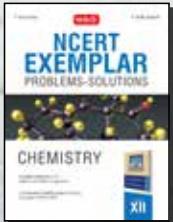
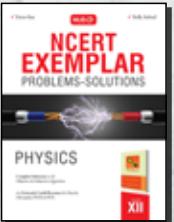
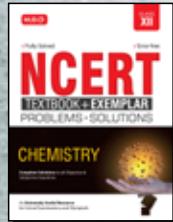
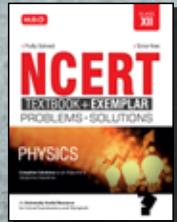
Class 10



Class 11



Class 12



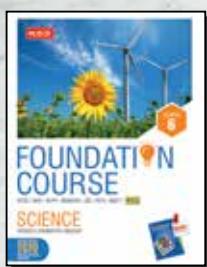
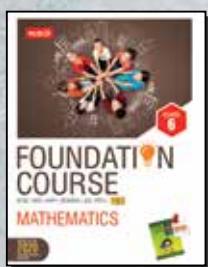
JEE (Main & Advanced) | NEET | BOARDS | OLYMPIAD | NTSE

FOUNDATION COURSE

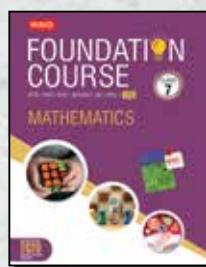
For Classes 6, 7, 8, 9 & 10

For latest releases and revised editions
[CLICK HERE](#)

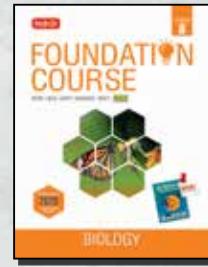
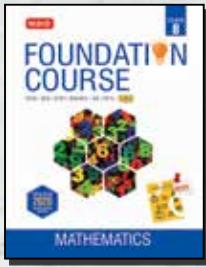
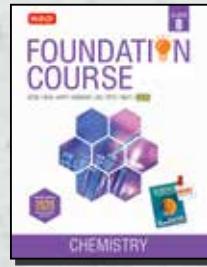
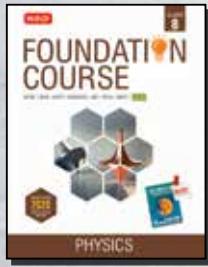
Class 6



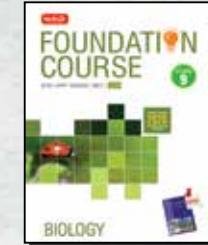
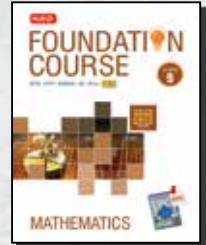
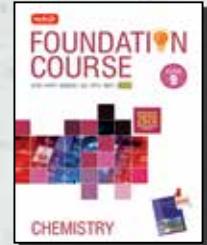
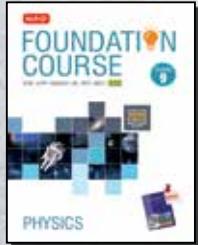
Class 7



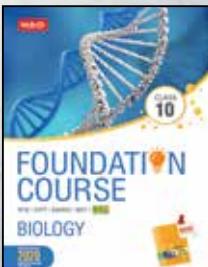
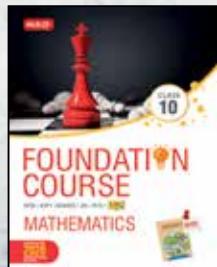
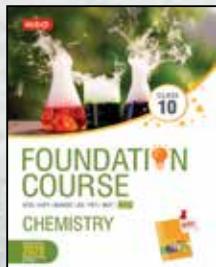
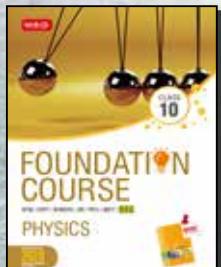
Class 8



Class 9



Class 10



CBSE CHAMPION

CHAPTERWISE-TOPICWISE

For Classes 10, 11 and 12

For latest releases and revised editions

[CLICK HERE](#)

Class 10



Class 11



Class 12



For Classes 10 & 12

ScoreMore

21 SAMPLE PAPERS

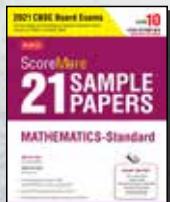
For latest releases and revised editions

[CLICK HERE](#)

CLASS
10



CLASS
12



OLYMPIAD Prep-Guide

For Classes 1 to 8

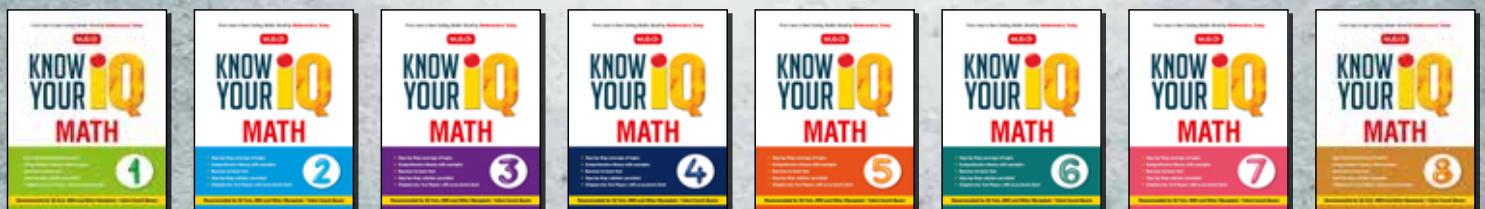
For latest releases and revised editions
[CLICK HERE](#)



For Classes 1 to 8

KNOW YOUR iQ MATH

For latest releases and revised editions
[CLICK HERE](#)



For latest releases and revised editions
[CLICK HERE](#)

mtG



Introducing

100 PERCENT

for Science, Mathematics,
English & Social Science

THE SMART STUDY SYSTEM

100%
CBSE

MTG's 100 Percent Series is based on the most current CBSE guidelines and curriculum

100%
SCIENTIFIC

MTG's editorial team knows what it takes to score more in exams - it keeps a close watch on changing examination patterns and has been able to put all ingredients critical to success together in a package aptly titled 100 Percent

100%
CONTENT

Be it easy-to-comprehend text, graphics, illustrations or concept maps that complement understanding theory and concepts is so straightforward with 100 Percent

100%
CHECKS

After each topic, in every chapter, 100 Percent presents students with a variety of Q&A, including "Try Yourself", "NCERT Focus" & "CBSE Focus"

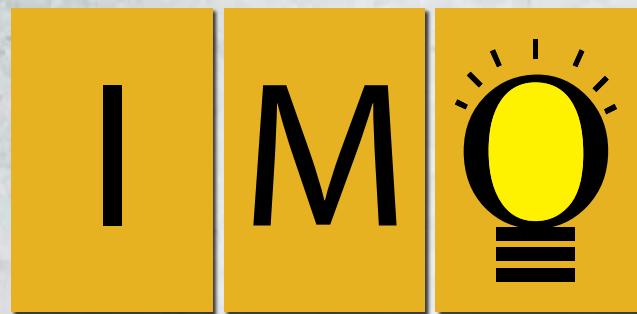
100%
PRACTICE

100 Percent goes all out to ensure students are prepared for a diverse set of future challenges through a variety like Competition Focus, Exam Drills and Practice Papers, even Viva Voce Q&A for lab-based experiments

Available
for CBSE
Classes
9 & 10



Available with all leading booksellers.



CLASS 5

Contents

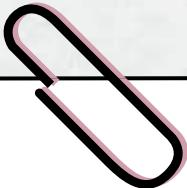
- ☛ IMO - Level-2 (2016)

- ☛ IMO - Level-2 (2017)

- ☛ IMO - Level-2 (2018)

- ☛ IMO - Level-2 (2019)

- ☛ IMO - Level-2 (2020)





LEVEL - 2

Year 2015-16

MATHEMATICS

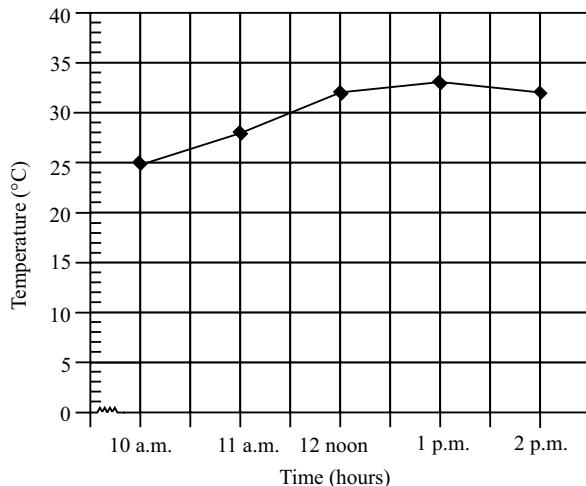
1. $MMDCCI + DCCCI = \underline{\hspace{2cm}}$.

- A. MCLII
 - B. MMCII
 - C. MMMDII
 - D. MMMMMMDII
-

2. In 449485, the sum of place values of 4's is _____ more than place value of 8 at the tens place.

- A. 430240
 - B. 440320
 - C. 440230
 - D. 404230
-

3. The given graph shows the temperature taken on a certain day.



The increase in temperature is greatest from _____.

- A. 10 a.m. to 11 a.m.
 - B. 11 a.m. to 12 noon
 - C. 12 noon to 1 p.m.
 - D. 1 p.m. to 2 p.m.
-

4. Which of the following has the greatest value?

- A. 21 hundredths
 - B. 109 thousandths
 - C. 25 thousandths
 - D. 15 hundredths
-

5. What is the value of

$$88888 \times 10 - 188888 + 4000000 \div 2?$$

- A. 2699992
 - B. 2050000
 - C. 1300008
 - D. 1300080
-

6. Mr. Gupta has room 12 m wide and 24 m long. He wants to partition an area that measures 5 m wide and 7 m long for study room. Find the remaining area of the room.

- A. 258 m^2
 - B. 253 m^2
 - C. 256 m^2
 - D. 250 m^2
-

7. Four times of 96 is _____ multiple of 12.

- A. 12^{th}
 - B. 24^{th}
 - C. 32^{th}
 - D. 28^{th}
-

8. Kartik bought 189 trays of chocolates. Each tray contained 16 chocolates. What is the total number of chocolates he bought?

- A. 3634
 - B. 3160
 - C. 3024
 - D. 4312
-

9. A rule for a function table is given below.

Multiply the input value by 2 and add that product to 10 to get the output value".

Which function table below has only values that follows the above rule?

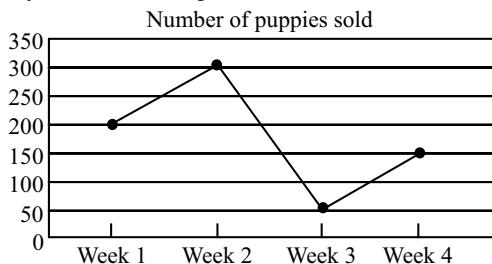
Input	Output
2	14
0	10
4	18
3	16

Input	Output
2	14
0	0
4	4
3	8

Input	Output
2	14
0	10
4	4
3	6

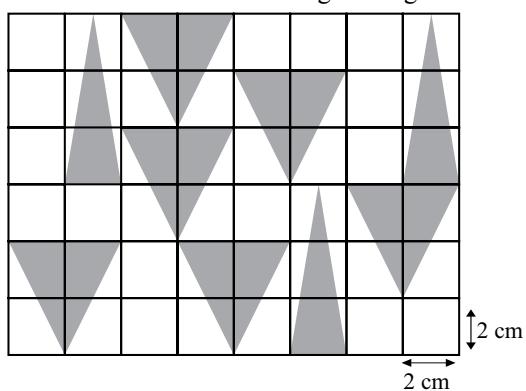
	Input	Output
D.	2	6
	0	10
	4	14
	3	16

10. The given line graph shows the number of puppies sold by Varun in the past 4 weeks.



If the puppies were sold at ₹ 40 each, what was the total amount of money collected by Varun?

- A. ₹ 28000
 B. ₹ 30000
 C. ₹ 32000
 D. ₹ 10000
11. Find the unshaded area of the given figure.



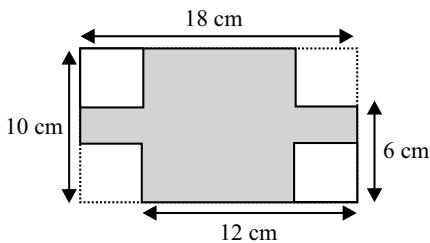
- A. 66 cm^2
 B. 176 cm^2
 C. 126 cm^2
 D. 134 cm^2
12. Garima has 204 stamps, Priya has $2\frac{3}{4}$ times as many stamps as Garima and Latika has 500 more stamps than Priya. How many stamps they have altogether?

- A. 1189
 B. 1765
 C. 1926
 D. 1826

13. Mohit spent $\frac{1}{4}$ of his salary on buying a watch and saved ₹ 1500. How much did he earn in a month?

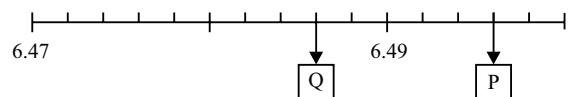
- A. ₹ 2000
 B. ₹ 7200
 C. ₹ 3000
 D. ₹ 1600

14. Four small identical rectangles have been cut from a piece of rectangular paper as shown in the given figure. What is the area of the shaded part?



- A. 112 cm^2
 B. 84 cm^2
 C. 132 cm^2
 D. 100 cm^2

15. What is the fractional value of \boxed{P} and \boxed{Q} ?



- | P | Q |
|------------------------|---------------------|
| A. $\frac{6496}{1000}$ | $\frac{6482}{1000}$ |
| B. $\frac{6494}{1000}$ | $\frac{6478}{1000}$ |
| C. $\frac{6496}{1000}$ | $\frac{6486}{1000}$ |
| D. $\frac{6483}{1000}$ | $\frac{6483}{1000}$ |

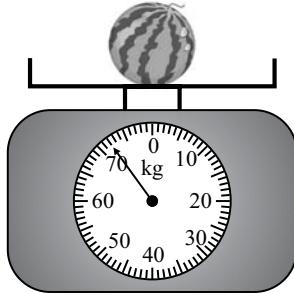
16. The sum of $1\frac{1}{6}$ and $2\frac{1}{3}$ is _____ sum of $1\frac{1}{3}$ and $4\frac{3}{4}$.

- A. Greater than
 B. Less than
 C. Equal to
 D. Data Inadequate

17. What is the value of $82.24 - 2.24 \times 6 + 3.4 \div 5$ in fractions?

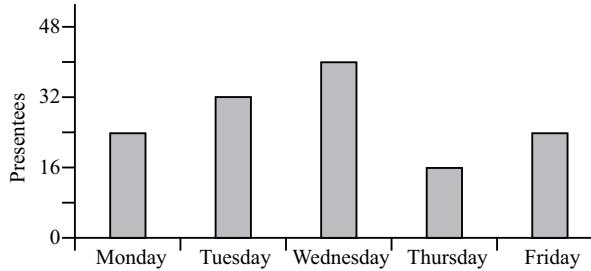
- A. $6948/100$
 B. $6958/100$
 C. $9668/1000$
 D. $6812/1000$

18. What is the weight of five such watermelons shown in the given figure?



- A. 540 kg
B. 240 kg
C. 360 kg
D. 72 kg

19. The given graph shows the daily number of presentees for five days in class V. What is the difference between the highest number of presentees and the lowest number of presentees in the class?

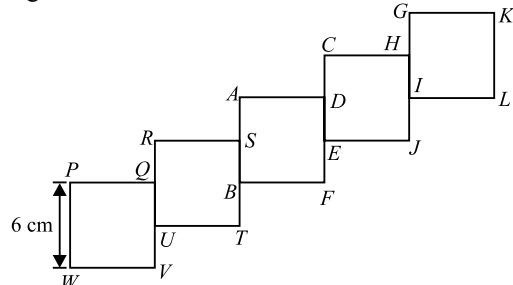


- A. 16
B. 24
C. 28
D. 32

20. 22 children were at a birthday party. Each girl drank 2 glasses of fruit punch and each boy drank 3 glasses of fruit punch. If the boys drank 31 more glasses of fruit punch than girls, then how many girls attended the party?

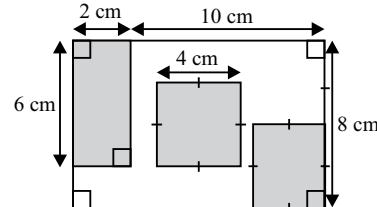
- A. 7
B. 8
C. 16
D. 15

21. The given figure is made up of five identical squares and $RQ = QU = UV = AS = SB = BT = CD = DE = EF = GH = HI = IJ$. Find the perimeter and area of the figure.



- A. 95 cm, 300 cm^2
B. 90 cm, 240 cm^2
C. 110 cm, 300 cm^2
D. 96 cm, 180 cm^2

22. Find the sum of area of the shaded part and area of whole figure.



- A. 190 cm^2
B. 230 cm^2
C. 140 cm^2
D. 150 cm^2

23. The given table shows the fare of travelling from two trains P and Q. Study it carefully and answer the following question.

	Fare (1 st km)	Every additional (1/2) km or part thereof
Train P	₹ 7.50	50 paise
Train Q	₹ 9.90	60 paise

How much total money Mohit has to pay if he travels 2.5 km from Train P and 1.5 km from Train Q?

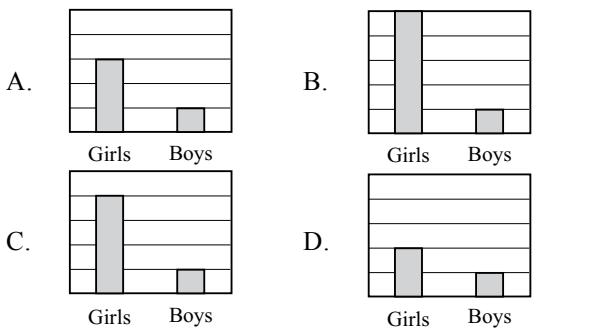
- A. ₹ 19.90
B. ₹ 19.00
C. ₹ 16.90
D. ₹ 19.50

24. The given table shows the time taken by five friends to complete their lunch. Which friend had finished the lunch before Meetu?

Name	Time taken
Meetu	2440 secs
Beena	125 mins 40 secs
Komal	123 mins 24 secs
Ankit	24 mins 25 secs
Aarav	44 mins 20 secs

- A. Aarav
B. Komal
C. Ankit
D. Beena

25. One third of the members of a badminton club are boys. Which of the following bar graphs is the correct representation of the members of the club?



26. Nisha planned to list all the prime numbers from 60 to 100. Her list is shown below.

61, 67, 71, 73, 79, 83, 97

Her friend noticed that one prime number is missing. Which prime number is missing in Nisha's list?

- A. 81
B. 87
C. 89
D. 91

Direction (27-28) : Students created a pictograph that shows the number of apples sold in a food store in one week. Answer the questions based on it.

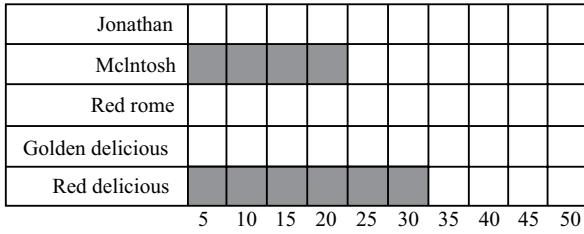
Apples sold in a Food Store

Red delicious	  
Golden delicious	  
Red rome	   
McIntosh	 
Jonathan	   

 = 10 apples  = 5 apples

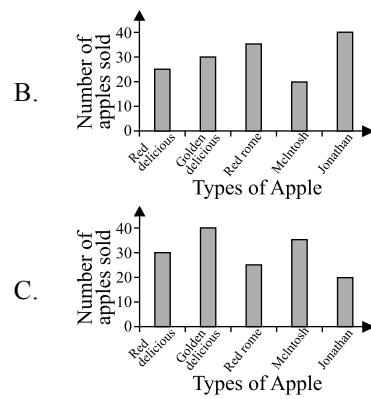
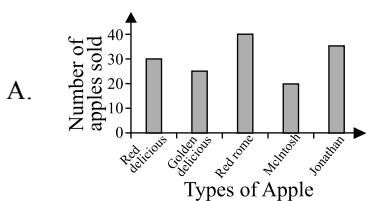
27. How many blocks should the students shade on the graph to represent the number of Jonathan apples sold?

Apples sold in a Food Store



- A. 7
B. 6
C. 5
D. 4

28. Select the correct bar graph which represents the data shown in pictograph.



- D. None of these

29. Which of the following figures has the greatest shaded fraction?

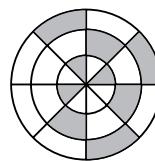


Figure I

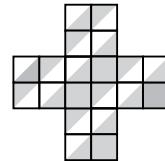


Figure II

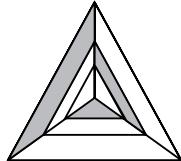
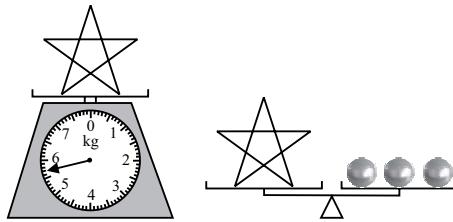


Figure III

- A. Figure I
B. Figure II
C. Figure III
D. All have equal shaded part of a fraction

30. What is the weight of a ball shown in the figure, if all the balls have same weight?



- A. 1.9 kg
B. 3.8 kg
C. 5.6 kg
D. 5.7 kg

31. Find P, Q and P + Q + R.

$$\begin{array}{r}
 96 \\
 \times 89 \\
 \hline
 \boxed{P}64 \\
 +7\boxed{Q}80 \\
 \hline
 854\boxed{R}
 \end{array}$$

- | P | Q | P + Q + R |
|------|---|-----------|
| A. 8 | 6 | 18 |
| B. 4 | 6 | 12 |
| C. 3 | 5 | 14 |
| D. 2 | 7 | 15 |

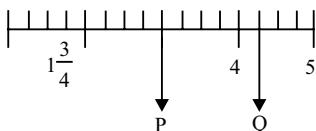
32. 3 shirts and 7 pairs of pants have a total of 55 buttons. Each pair of pants has 5 fewer buttons than each shirt. How many buttons are there on each shirt?

- A. 4
- B. 9
- C. 25
- D. 30

33. Which type of angle has a measure that is smaller than obtuse angle?

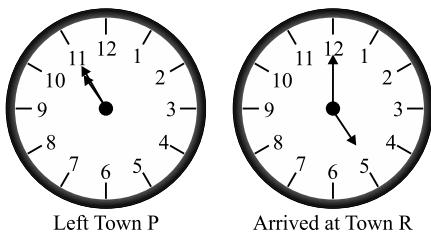
- A. Acute
- B. Right
- C. Straight
- D. Both A and B

34. What is the sum of P and Q ?



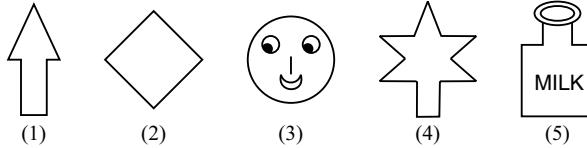
- A. 7.6
- B. 7.25
- C. 7.75
- D. 7.5

35. Naman left the town P at time shown below. After 1 hour 50 minutes, he stopped at Town Q for rest. He then took another 2 hours 25 minutes to reach Town R. How long was his rest break?



- A. 2 hr 50 mins
- B. 1 hr 25 mins
- C. 1 hr 50 mins
- D. 2 hrs 10 mins

36. Which of the following are symmetric figures?



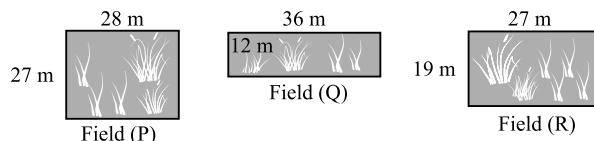
- A. Only (2)
- B. Both (3) and (4)
- C. (1), (2), (3) and (4)
- D. (1), (2) and (4)

37. 8348 people took part in a marathon. 926 people gave up after the first hour. One third of the remaining people gave up after the second hour. The rest

completed the marathon. How many people completed the marathon?

- A. 4945
- B. 4942
- C. 4940
- D. 4948

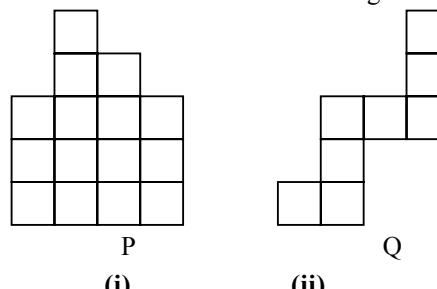
38. Ali bought three fields. He bought Field (P) at the rate of ₹ 95 for a square metre, Field (Q) at the rate of ₹ 110 for a square metre and Field (R) at the rate of ₹ 120 for a square metre. Find the total cost of all three fields.



- A. ₹ 189000
- B. ₹ 180900
- C. ₹ 198000
- D. ₹ 981000

39. The given figures are made up of identical squares. If each side of the square is 3 cm, then find :

- (i) the perimeter of figures P and Q respectively.
- (ii) the difference in area of the figures P & Q.



- | | |
|-----------------|--------------------|
| (i) | (ii) |
| A. 45 cm, 48 cm | 54 cm ² |
| B. 54 cm, 54 cm | 63 cm ² |
| C. 48 cm, 45 cm | 45 cm ² |
| D. 48 cm, 48 cm | 54 cm ² |

40. Select the INCORRECT match.

- A. 218 - CCXVIII
- B. 399 - CCCXCIX
- C. 3249 - MMMCCXLX
- D. 1667 - MDCLXVII

41. The given table shows the height of a plant measured over five weeks. What is the rate of growth of the plant during the third week?

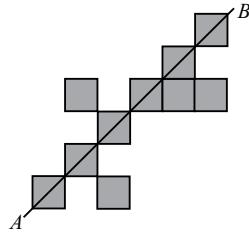
At the end of	1 st week	2 nd week	3 rd week	4 th week	5 th week
Height (cm)	3	10	31	50	65

- A. 11 times of height in 1st week
 B. 4 times the height in 2nd week
 C. $\frac{1}{5}$ times of height in 4th week
 D. None of these
-
42. A football team is planning a trip to the beach, where they will spend the night in tents.
 If each tent hold 3 players, which of the following table in the options correctly shows the number of tents needed for different numbers of players?
- | Number of players | Number of tents |
|-------------------|-----------------|
| 12 | 36 |
| 18 | 54 |
| 21 | 63 |
| 33 | 99 |
- | Number of players | Number of tents |
|-------------------|-----------------|
| 12 | 4 |
| 18 | 6 |
| 21 | 7 |
| 33 | 11 |
-
- | Number of players | Number of tents |
|-------------------|-----------------|
| 12 | 4 |
| 18 | 2 |
| 21 | 1 |
| 33 | 4 |
- | Number of players | Number of tents |
|-------------------|-----------------|
| 12 | 6 |
| 18 | 9 |
| 21 | 11 |
| 33 | 17 |
-
43. The given table shows the price of rice in four different markets. Which market offers the lowest price for rice per kg?

	Market P	Market Q	Market R	Market S
Weight of rice	5 kg	10 kg	20 kg	15 kg
Price	₹ 22.50	₹ 45	₹ 52.50	₹ 36.50

- A. Market P B. Market Q
 C. Market R D. Market S
-

44. What is the least number of squares that must be added, so that the line AB becomes a line of symmetry?



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

45. Harsha is decorating her bedroom. She has the following choices of wall colour, curtain and bedsheets.

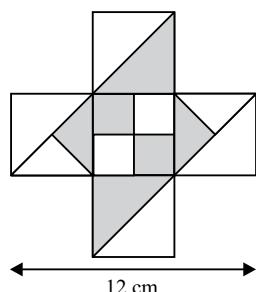
Wall colour	Curtain	Bedsheet
Blue	Spotted	Flowers
Green	Striped	Plain
Yellow	Checkered	Checkered

What is the total number of combinations of 1 wall colour, 1 curtain, and 1 bedsheets that are possible?

- A. 27 B. 8
 C. 12 D. 18

ACHIEVERS SECTION

46. If + + + + = 116 and + + = 64, then the value of × =
 A. 364
 B. 264
 C. 226
 D. 494
-
47. The given figure is made up of 5 identical squares. What is the area of the unshaded part?



- A. 43 cm² B. 48 cm²
 C. 12 cm² D. 20 cm²
-
48. Match the columns:
- | Column-I | Column-II |
|---|------------------|
| (i) Subtract 2885.3 from product (P) | (P) 27.276 |
| of 341.6 and 9 | (Q) 189.1 |
| (ii) Sum of 8.015 , 15.001, 0.06, | (R) 0.724 |
| 4.2 | is ____ more 18. |
| (iii) 18.7 more than 24 thousandths | (S) 16.225 |
| (iv) $14 + \frac{8}{10} + \frac{108}{100} + \frac{345}{1000}$ | (T) _____ |
- A. (i) - (P), (ii) - (R), (iii) - (Q), (iv) - (S)
 B. (i) - (S), (ii) - (R), (iii) - (P), (iv) - (Q)
 C. (i) - (S), (ii) - (P), (iii) - (R), (iv) - (Q)
 D. (i) - (Q), (ii) - (P), (iii) - (R), (iv) - (S)

49. Find the value of P + Q – R + S.

$$\begin{array}{r} 89\boxed{S} \\ 96 \overline{)855\boxed{P}6} \\ -7\boxed{Q}8 \\ \hline 873 \\ -86\boxed{R} \\ \hline 96 \\ -96 \\ \hline 00 \end{array}$$

- A. 4
C. 5

- B. 9
D. 6

50. Which of the following has the largest area and smallest perimeter?

- (i) A square of side 6 cm.
(ii) A rectangle of length 9 cm and breadth 5 cm.
(iii) A square of side 8 cm.
(iv) A rectangle of length 7 cm and breadth 8 cm.

Largest area Smallest perimeter

- | | | |
|----|-------|-------|
| A. | (i) | (iii) |
| B. | (ii) | (iii) |
| C. | (iii) | (i) |
| D. | (i) | (i) |

SPACE FOR ROUGH WORK

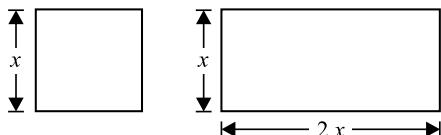


LEVEL - 2

Year 2016-17

MATHEMATICS

1. Which one of the following statements is true about the given square and rectangle?



- A. Perimeter of square = 2(Perimeter of rectangle)
 - B. Perimeter of square = $\frac{2}{3}$ (Perimeter of rectangle)
 - C. Perimeter of square = $\frac{3}{2}$ (Perimeter of rectangle)
 - D. Perimeter of square = $\frac{1}{2}$ (Perimeter of rectangle)
-

2. Which group of numbers are arranged from the largest to the smallest?

- A. 0.3, 3.0, 0.03, 0.003
 - B. 1.4, 0.14, 1.04, 1.004
 - C. 9.25, 9.95, 9.59, 9.92
 - D. 4.6, 4.26, 4.16, 4.06
-

3. Which of the following numbers is divisible by 2 but not divisible by 3?

- A. 1764
 - B. 2160
 - C. 4926
 - D. 3328
-

4. Find the value of P + Q - R.

$$\begin{array}{r}
 24 \overline{)51378} \\
 -48 \\
 \hline
 33 \\
 -24 \\
 \hline
 \boxed{Q}7 \\
 -96 \\
 \hline
 \boxed{R}8
 \end{array}$$

- A. 9
 - B. 8
 - C. 7
 - D. 0
-
5. Add 8 tenths to 5 hundreds and 5 hundredths. Subtract the addition of 7 tens and 7 hundredths from the previous result. What will be the answer ?

- A. 494.23
 - B. 430.78
 - C. 493.73
 - D. 430.83
-

6. If $\boxed{\square} + \boxed{\square} + \boxed{\square} = 2.64$,
 $\triangle \times \bigcirc + \boxed{\square} = 2.94$ and
 $\triangle \times \boxed{\square} = 1.76$

Find the value of $\triangle + \triangle + \bigcirc$.

- A. 3.02
 - B. 5
 - C. 2.05
 - D. 5.03
-

7. Find the value of P, Q and R.

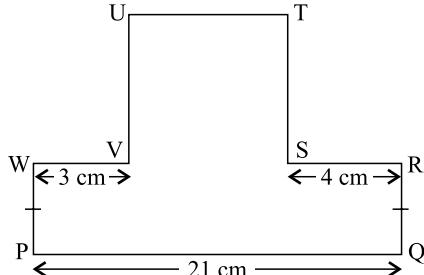
$$\boxed{P} - \boxed{Q} + \boxed{R} = 16640657$$

- | P | Q | R |
|-------------|----------|---------|
| A. 2351687 | 13562482 | 5429862 |
| B. 13562482 | 2351687 | 5429862 |
| C. 5429862 | 13562482 | 2351687 |
| D. 13562482 | 5429862 | 2351687 |
-

8. Find the difference between the greatest and smallest 8-digit numbers formed by using the digits 7, 4, 8, 2, 0, 3, 9 (each digit should be used atleast once).

- A. 79839531
 - B. 8833531
 - C. 89839441
 - D. 79839441
-

9. Figure PQRSTUWV is made up of a rectangle and a square. Find the length of RQ, if perimeter of rectangle is $\frac{6}{7}$ times of perimeter of square.



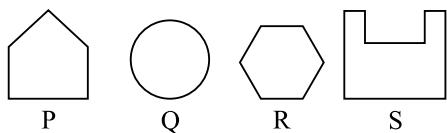
- A. 3 cm
- B. 4 cm
- C. 6 cm
- D. 2 cm

10. Select the correct match.
- $115.32 \times 2 = 23.064$
 - $1272.55 \div 5 = 254.501$
 - $3.15 \times 12 = 37.8$
 - $54.51 \times 51 = 2780.1$
-
11. How many minimum number of square(s) must be shaded to make the given figure symmetric along the dotted line?
-
- A. 2 B. 3.5 C. 4 D. 4.5
-
12. If 6 identical squares have a total area of 150 cm^2 , then find the perimeter of a square.
- 50 cm
 - 25 cm
 - 30 cm
 - 20 cm
-
13. Find the value of P, Q and R.
- | 12-hour clock | 24-hour clock |
|---------------|---------------|
| 3 : 45 pm | P |
| 12 : 01 am | Q |
| 10 : 06 pm | R |
- P Q R
- 03:45 hours 12:01 hours 22:06 hours
 - 03:45 hours 00:01 hours 10:06 hours
 - 15:45 hours 00:01 hours 22:06 hours
 - 15:45 hours 12:01 hours 22:06 hours
-
14. Rounded off $(3169676 + 21934)$ to nearest thousand.
- 3192000
 - 3182000
 - 3191000
 - 3181000
-
15. The given figure is formed by identical squares. If area of the figure is 980 cm^2 , then find the length of PQ.
-
- A. 14 m B. 28 cm C. 14 cm D. 24 m
-
16. What fraction of given figure is unshaded, if all the squares are identical?
-
- A. $\frac{20}{112}$ B. $\frac{30}{64}$ C. $\frac{45}{64}$ D. $\frac{40}{56}$
-
17. Find the sum of the common prime factors of 168 and 252.
- 11
 - 12
 - 13
 - None of these
-
18. How many right angles and straight angles are there in $7\frac{1}{2}$ complete turn?
- 32, 16
 - 8, 7
 - 28, 14
 - 30, 15
-
19. If $\frac{3}{20}$ of a number is 15 less than the $\frac{1}{5}$ of the same number, then find the number.
- 300
 - 250
 - 200
 - 350

20. If 7th October falls on Monday, then which day of the week is 1st December?
- Sunday
 - Saturday
 - Monday
 - Tuesday
-
21. How many eighths are there in 1.75?
- 14
 - 16
 - 18
 - 12
-
22. There are 75 people at a party. 25 of them are men. If $\left(\frac{1}{5}\right)^{\text{th}}$ of them are women, then find the fraction of children in the party.
- $\frac{5}{7}$
 - $\frac{7}{15}$
 - $\frac{8}{15}$
 - $\frac{3}{14}$
-
23. Identify the number using given clues.
- It is a three digit even number.
 - It is common multiple of 16 and 64.
 - It has a total of 9 factors.
- 256
 - 128
 - 320
 - 192
-
24. In 12,99,897, the place value of the digit '2' is how many times the place value of digit '8'?
- 250
 - 20000
 - 800
 - 2000
-
25. Find the value of x .
- $$99 \times 96 = (99 \times 100) - (x \times 33)$$
- 13
 - 12
 - 63
 - 15
26. The graph shows Priya's marks in Mathematics in four terms. If Priya's total score was 363, how many more marks did she score in Term III than in Term IV.
-
- | Term | Marks |
|------|-------|
| I | 90 |
| II | 80 |
| III | 0 |
| IV | 95 |
-
- 4
 - 2
 - 3
 - 1
-
27. Compare and put the sign (< , > or =) in the box.
DCLXXIV + MXLVI LXXIV + CLXXXIX
- =
 - <
 - >
 - None of these
-
28. Trishu has $9\frac{1}{4}$ of pizza. How many quarter pieces can she cut from it ?
- 37
 - 36
 - 9
 - 27
-
29. Sam started jogging at 06:20 hours. He jogged 35 minutes before taking 10 mins rest. He then walked and reached home at 9:15 am. How much time did he take to walk home?
- 1 hour 5 mins
 - 2 hours 50 mins
 - 2 hours 10 mins
 - 2 hours
-
30. Garima wants to buy a watch which costs ₹31925. She saves ₹2000 every month. How many months does Garima need to save in order to pay for the watch?
- 12
 - 16
 - 15
 - 10

31. Trishika cut a wire and bent to form 4 similar rectangles. The length of each rectangle is 2 more than the twice its breadth. If the length of a rectangle is 22 cm, what is the original length of the wire she had?
- 256 cm
 - 200 cm
 - 196 cm
 - 176 cm
-
32. 2 oranges cost ₹15 and 4 bananas cost ₹12. Samaksh bought 12 dozen of oranges and 15 dozen of bananas. If he gave ₹2000 to shopkeeper, then how much change did he get back?
- ₹240
 - ₹150
 - ₹380
 - ₹442
-
33. Ruchi baked a cake and gave $\frac{2}{3}$ of it to Priyanka and $\frac{1}{8}$ of it to her children. What fraction of cake was left with her?
- $\frac{5}{24}$
 - $\frac{5}{19}$
 - $\frac{3}{24}$
 - $\frac{1}{24}$
-
34. Find the shaded area of the given figure.
-
- The diagram shows a large rectangle with a total width of 6 cm and a total height of 4 cm. A smaller square hole is cut out from the center, with a side length of 2 cm. The shaded area consists of the outer rectangle minus the inner square.
- 22 cm^2
 - 50 cm^2
 - 24 cm^2
 - None of these
-
35. If you add 1 to a number and round it off to the nearest ten, the answer is 1870. If you add 2 to the number and round it off to the nearest ten, the answer is 1880. What is the number?
- 1873
 - 1863
 - 1874
 - 1864
-
36. A jacket costs $15\frac{1}{2}$ times as much as a pair of socks. If the jacket costs ₹3472, then how much does it cost to buy 2 jackets and 2 pairs of socks.
- ₹7392
 - ₹6930
 - ₹8580
 - ₹9525
-
37. In the English alphabets, how many letters have rotational symmetry?
- 5
 - 8
 - 9
 - None of these
-
38. If the length of a rectangular garden is 4th multiple of 16 and breadth is $\frac{3}{8}$ of the length, then find the perimeter and the area of the garden respectively.
- 176 units, 1536 sq. units
 - 44 units, 96 sq. units
 - 176 sq. units, 1536 units
 - 44 sq. units, 96 units
-
39. The given table shows the number of children that take up different types of sports as their Curriculum Activity.
- | Types of sport | Number of boys | Number of girls | Total |
|----------------|----------------|-----------------|-------|
| Badminton | 29 | | 45 |
| Basketball | | 12 | 38 |
| Bowling | 14 | 22 | |
| Table tennis | | 25 | 38 |
- How many more boys take basketball than table tennis?
- 13
 - 15
 - 26
 - 18
-
40. How many eighths are there in $1\frac{1}{2} + 2\frac{1}{2} + 1\frac{1}{4} + 2.75$?
- 56
 - 7
 - 64
 - 14

41. Which of the following shapes can not tessellated?

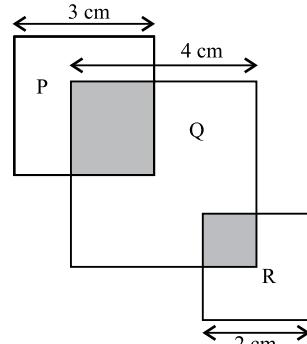


- A. Only P and Q
B. Only Q and R
C. Only R
D. None of these
-
42. I cycled 12 km 500 m and then walked 4 km 250 m. What was the total distance travelled by me?
- A. $16\frac{3}{4}$ km B. $16\frac{1}{4}$ km
C. $16\frac{3}{8}$ km D. $16\frac{7}{50}$ km
-

43. If the day before yesterday was Monday, then the day after tomorrow will be _____.
A. Thursday
B. Saturday
C. Friday
D. Wednesday

44. Nidhi bought 16 bottles of soft drinks. Each bottle had 650 ml of drink in it. What was the total amount of drinks she bought altogether?
A. 10 L 40 ml
B. 10 L 400 ml
C. 10 L 400 cl
D. 10 L 40 dl
-

45. The given figure is made up of 3 squares. If $\frac{1}{3}$ of square P and $\frac{1}{4}$ of square Q are shaded, what fraction of square R is shaded?



- A. $\frac{1}{2}$ B. $\frac{1}{5}$
C. $\frac{1}{4}$ D. $\frac{2}{3}$

ACHIEVERS SECTION

46. Match the following:

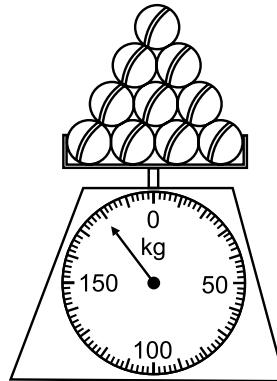
Column I	Column II
-----------------	------------------

- | | |
|---|-----------|
| P. MCMXLVII – MV | (i) 2857 |
| Q. MCMLVII + CM | (ii) 798 |
| R. DCLXXVII – XX | (iii) 942 |
| S. DXCIX + CXCIX | (iv) 657 |
| A. P → (ii); Q → (iii); R → (i); S → (iv) | |
| B. P → (iii); Q → (iv); R → (ii); S → (i) | |
| C. P → (iii); Q → (i); R → (iv); S → (ii) | |
| D. P → (ii); Q → (iv); R → (iii); S → (i) | |
-

47. If $\diamond + O + O + O = \diamond + \diamond + \diamond$ and $O = 2\frac{3}{4}$ then $\diamond \times O = ?$

- A. $12\frac{3}{4}$
B. $16\frac{1}{4}$
C. $16\frac{1}{8}$
D. $15\frac{1}{8}$

48. Read the statements carefully and select the correct option.

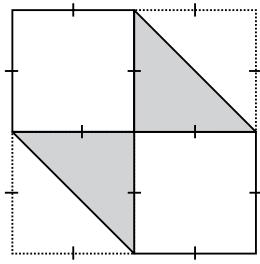


Statement-1 : Weight of three such balls is 36 less than weight of 5 such balls.

Statement-2 : Value of weight of 7 such balls is 6th multiple of 21.

- A. Both statement-1 and statement-2 are true.
B. Statement-1 is true and statement-2 is false.
C. Statement-1 is false and statement-2 is true.
D. Both statement-1 and statement-2 are false.

49. A square piece of paper is folded as shown. If the area of each shaded part is 72 cm^2 , find the perimeter of the piece of paper when it is unfolded.



- A. 98 cm
- B. 32 cm
- C. 96 cm
- D. 56 cm

50. Read the statements carefully and state 'T' for true and 'F' for false.

(i) $\frac{1}{3} + \frac{1}{4} + \frac{1}{5} = \frac{1}{12} + \frac{7}{10}$

(ii) $\frac{3}{4} + \frac{1}{6} - \frac{3}{7} = \frac{1}{3} + \frac{17}{28}$

(iii) $\left(\frac{4}{5} - \frac{3}{14}\right)$ is less than $\left(\frac{3}{4} - \frac{3}{20}\right)$

(iv) $\left(\frac{3}{7} + \frac{1}{3}\right)$ is not less than $\left(\frac{7}{12} + \frac{1}{4}\right)$

- | | | | |
|------|------|-------|------|
| (i) | (ii) | (iii) | (iv) |
| A. T | T | F | F |
| B. F | F | T | T |
| C. T | F | T | F |
| D. F | T | F | T |

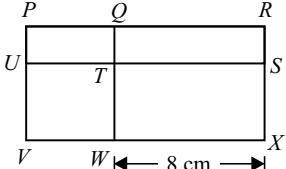
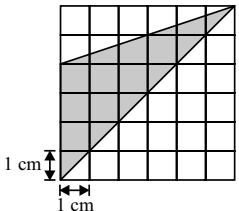
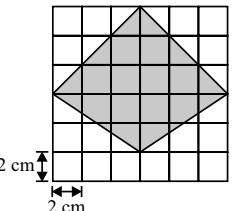
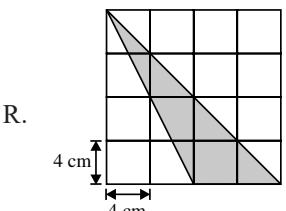
SPACE FOR ROUGH WORK



LEVEL - 2

Year 2017-18

MATHEMATICS

1. There are 50 passengers in a bus. 6 of them are children while the rest are adults. If $\frac{7}{11}$ of the adults are women, then what fraction of the total passengers in the bus are men?
- A. $\frac{8}{25}$ B. $\frac{16}{25}$
 C. $\frac{6}{25}$ D. $\frac{12}{25}$
-
2. What is the difference between the place value of 4 in the millions place and the place value of 4 in the thousands place ?
- A. 396000
 B. 399600
 C. 3996000
 D. 999000
-
3. The given figure (not drawn to scale) is divided into four parts. Area of rectangle $QRST$ is 32 sq. cm and area of square $UTWV$ is 36 sq. cm. Find the total area of rectangles $PQ TU$ and $TSXW$.
- 
- A. 76 sq. cm
 B. 72 sq. cm
 C. 64 sq. cm
 D. 82 sq. cm
-
4. Find the sum of the common prime factors of 154 and 224.
- A. 10
 B. 7
 C. 12
 D. 9
-
5. Round off the sum of 3645279 and 2153467 to the nearest ten thousand.
- A. 5790000
 B. 5800000
 C. 5799000
 D. 5700000
-
6. If area of 8 identical squares is 392 sq. cm, then find the perimeter of each square.
- A. 35 cm
 B. 21 cm
 C. 28 cm
 D. 32 cm
-
7. Sneha had two 2000 rupee notes. She spent $\frac{3}{8}$ of it on a dress and bought a pair of heels of ₹ 945. How much money did she have left?
- A. ₹ 2445
 B. ₹ 1955
 C. ₹ 1555
 D. ₹ 2045
-
8. Sahil travelled 12 km 450 m by train, 8 km 225 m by car and 3 km 450 m by scooter. Find the total distance travelled by Sahil.
- A. $24\frac{1}{8}$ km
 B. $24\frac{1}{4}$ km
 C. $24\frac{3}{8}$ km
 D. $24\frac{3}{4}$ km
-
9. Which of the following is greater than $\frac{1}{2}$?
- A. $\frac{1}{4} + \frac{1}{4}$
 B. $\frac{5}{6} + \frac{1}{6}$
 C. $\frac{3}{8} + \frac{1}{8}$
 D. $\frac{7}{12} - \frac{1}{12}$
-
10. Arrange the areas of following figures in ascending order.
- P.  A 4x4 grid with a shaded triangle in the top-left corner. The base of the triangle is 2 units and the height is 2 units.
 Q.  A 4x4 grid with a shaded triangle in the center. The base of the triangle is 2 units and the height is 2 units.
 R.  A 4x4 grid with a shaded triangle in the bottom-right corner. The base of the triangle is 4 units and the height is 4 units.
- A. P, Q, R
 B. Q, R, P
 C. P, R, Q
 D. R, Q, P

11. Raman had some money. He spent $\frac{1}{5}$ of it on education and $\frac{2}{5}$ of the remainder on food. He saved the rest.
 (a) What fraction of his money was spent on food?
 (b) If Raman spent ₹ 2400 on food, then how much did he save?

(a)	(b)
A. $\frac{1}{25}$	₹ 2400
B. $\frac{8}{25}$	₹ 3600
C. $\frac{8}{25}$	₹ 2400
D. $\frac{1}{25}$	₹ 3600

12. The table below shows the cost of peanuts at stall P, stall Q and stall R.

	Stall P	Stall Q	Stall R
Price of peanuts	₹ 150 per kg	₹ 100 for 600 g	₹ 105 for 700 g

Which two stalls sell the peanuts at the same price?

- A. P and R
 B. P and Q
 C. R and Q
 D. None of these
13. In $7 + \underline{\quad} + 0.026 = 7.826$, what is the missing fraction in the blank?

- A. $\frac{1}{8}$
 B. $\frac{5}{10}$
 C. $\frac{2}{3}$
 D. $\frac{4}{5}$

14. Match the following :

Column I	Column II
Number	Place value and face value of underlined digit respectively
(a) 3 <u>6</u> 124081	(i) 20000 and 2
(b) 9 <u>2</u> 133302	(ii) 200000 and 2
(c) 51210084 <u>2</u>	(iii) 2 and 2
(d) 12 <u>2</u> 01485	(iv) 2000000 and 2
(a) (i) (b) (ii)	(c) (iii) (d) (iv)
A. (i) (ii)	(iii) (iv)
B. (i) (iii)	(iv) (ii)
C. (i) (iv)	(iii) (ii)
D. (iv) (iii)	(ii) (i)

15. Which set of numbers gives a sum of 160 and a product of 5775 ?

- A. 55 and 105
 B. 60 and 100
 C. 65 and 95
 D. 170 and 90

16. Difference between the successor of 32760019 and predecessor of 48720000 is _____ .

- A. 15958979
 B. 15959981
 C. 14959981
 D. 15959979

17. Find the value of $(P + Q + R) \times S$ in the following addition problem.

$$\begin{array}{r}
 2 \boxed{P} 0 6 8 4 1 5 \\
 + 3 1 2 \boxed{Q} 4 2 2 6 \\
 \hline
 \boxed{S} 0 2 7 2 \boxed{R} 4 1
 \end{array}$$

- A. 90
 B. 75
 C. 70
 D. 80

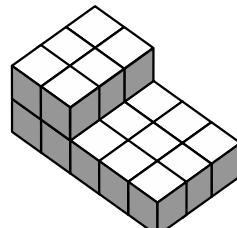
18. Identify the minuend and subtrahend in the given subtraction problem.

Minuend	Subtrahend	99,99,999
A. 99,99,999	9,99,999	<u>– 9,99,999</u>
B. 9,99,999	99,99,999	<u>90,00,000</u>
C. 90,00,000	99,99,999	
D. 9,99,999	90,00,000	

19. Which of the following statements is INCORRECT ?

- A. There is only one centre in a circle.
 B. Radius is the longest chord of any circle.
 C. Half of a circle is called semicircle.
 D. A circle can have many diameters.

20. Count the number of unit cubes in the given solid.

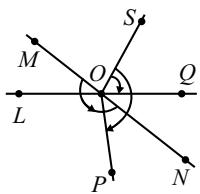


- A. 21
 B. 20
 C. 22
 D. 23

21. There are 35 girls and 15 boys in a badminton club. What fraction of the members are boys ?

- A. $\frac{7}{10}$
 B. $\frac{3}{4}$
 C. $\frac{3}{10}$
 D. $\frac{13}{20}$

22. In the given figure, $\angle MON$ is (i) angle, $\angle SOQ$ is (ii) angle and $\angle SOP$ is (iii) angle.



- | (i) | (ii) | (iii) |
|-------------|----------|--------|
| A. Obtuse | Straight | Acute |
| B. Straight | Acute | Obtuse |
| C. Acute | Acute | Obtuse |
| D. Straight | Obtuse | Acute |

23. How many minutes are there in $\frac{1}{20}$ of 6 hours?

- A. 20 mins
- B. 30 mins
- C. 18 mins
- D. 24 mins

24. A certain number when divided by 4 gives a remainder of 3. The same number when divided by 3 gives a remainder of 2. Which of the following can be the number?

- A. 55
- B. 71
- C. 89
- D. 103

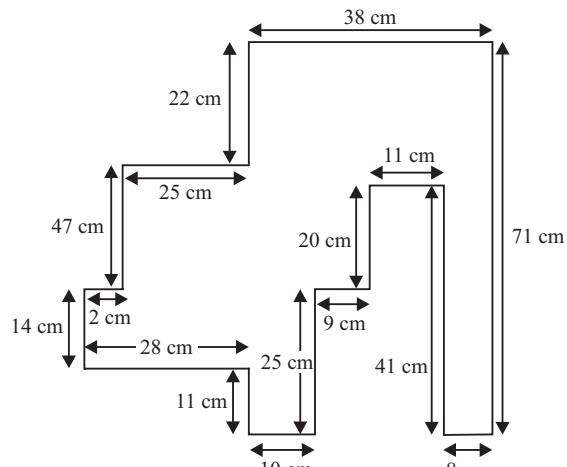
25. Neena bought a packet of 120 beads. She used $\frac{2}{3}$ of the beads to sew onto a bag and $\frac{1}{12}$ of it to sew onto a top. She then sewed the rest of the beads onto several scarves.

- (a) How many beads are used in scarves?
 - (b) How many more beads are used to sew a bag than a top?
- | (a) | (b) |
|---------------|-----|
| A. 30 70 | |
| B. 40 60 | |
| C. 30 60 | |
| D. 40 70 | |

26. When the time in Singapore is 21 : 30, the time in New York is 09 : 30 on the same day. What is the time difference between Singapore and New York?

- A. 9 hrs
- B. 9 hrs 30 mins
- C. 12 hrs
- D. 12 hrs 30 mins

27. Find the perimeter of the whole figure (not drawn to scale).

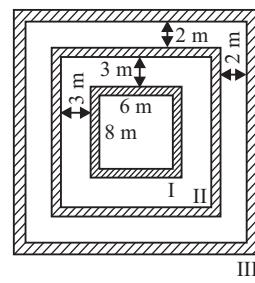


- A. 364 cm
- B. 383 cm
- C. 643 cm
- D. None of these

28. Priyank filled a pail with 3 L 125 mL of water, a jug with 2 L 50 mL of water and a bottle with 600 mL of water. How many litres of water did Priyank use altogether?

- A. 5 L 775 mL
- B. 3 L 250 mL
- C. 5 L 50 mL
- D. 6 L 250 mL

29. Teena, Sheena and Veena run on different tracks of a rectangular field. If the dimensions of the tracks are given below, then what is the difference between the length of boundary of track III and track I? (neglecting the width of the track)



- A. 68 m
- B. 40 m
- C. 24 m
- D. 16 m

30. In a certain state, fifty two lakh sixty one thousand nine hundred eighty nine students were enrolled in various schools. Of these, nineteen lakh sixty five thousand two hundred thirty three were primary school students, twenty lakh six thousand seven hundred fifty six were high school students and the rest attended middle school. What is the number of students enrolled in middle school rounded off to nearest lakh?

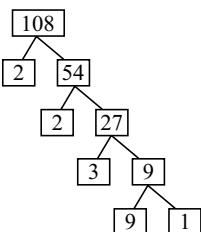
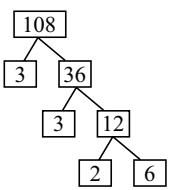
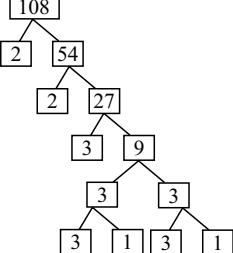
- A. 2000000
 B. 1300000
 C. 1200000
 D. None of these

31. If each letter represents a different digit, then find P, Q, R, S, T in the following multiplication problem.

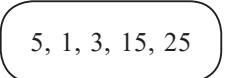
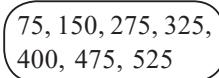
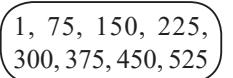
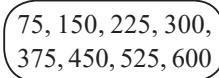
$$\begin{array}{r} \text{P} \ \text{Q} \ \text{R} \ \text{S} \ \text{T} \\ \times 5 \\ \hline 1 \ 2 \ 2 \ 6 \ 8 \ 5 \end{array}$$

- | P | Q | R | S | T |
|------|---|---|---|---|
| A. 2 | 4 | 5 | 3 | 7 |
| B. 2 | 5 | 4 | 3 | 7 |
| C. 2 | 6 | 4 | 3 | 7 |
| D. 2 | 4 | 5 | 4 | 7 |

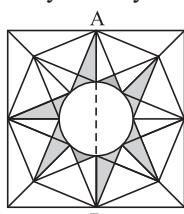
32. Which of the following shows the correct prime factorisation of 108?

- A.  B. 
- C.  D. Both (A) and (C)

33. Which of the following sets shows the multiples of 75?

- A.  B. 
- C.  D. 

34. How many more triangles must be shaded to make AB as the line of symmetry?



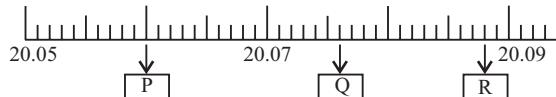
- A. 2
 B. 3
 C. 4
 D. 5

35. Compare and fill in the box with ' $<$ ', ' $>$ ' or ' $=$ '.

$$\left(\frac{4}{5} - \frac{3}{14}\right) \text{ less than } \left(\frac{3}{4} - \frac{3}{20}\right) \square \left(\frac{3}{7} + \frac{1}{3}\right) \text{ more than } \left(\frac{7}{12} - \frac{1}{4}\right)$$

- A. =
 B. >
 C. <
 D. Can't be determined

36. Find the values of missing decimal numbers P, Q and R.



- | P | Q | R |
|----------|--------|--------|
| A. 20.06 | 20.076 | 20.088 |
| B. 20.06 | 20.08 | 20.088 |
| C. 20.06 | 20.09 | 20.880 |
| D. 20.06 | 20.216 | 20.778 |

37. Solve the following :

(I) I am a 3-digit number between 100 and 120 and a multiple of 6. The sum of my digits is 9. What number am I?

(II) Find the difference between the fourth multiple of 9 and the third multiple of 6.

- | (I) | (II) |
|--------|------|
| A. 117 | 18 |
| B. 108 | 45 |
| C. 108 | 18 |
| D. 117 | 45 |

38. When \blacklozenge is added to 59 hundreds, the answer is 300 tens more than 11 thousands. How many tens is \blacklozenge ?

- A. 180
 B. 140
 C. 8100
 D. 810

39. Mrs Kapoor bought $2\frac{1}{2}$ kg of wheat at ₹ 16 per 200 g. How much money would she have to pay?

- A. ₹ 220
 B. ₹ 160
 C. ₹ 200
 D. ₹ 240

40. 25 kg of sugar is packed into packets of weight 125 g each. How many packets of sugar are there?

- A. 200
 B. 100
 C. 125
 D. 150

41. The weight of a packet of salt is 1.2 kg. The weight of a packet of flour is 0.3 kg less than the weight of a packet of salt. Find the total weight of 5 such packets of salt and 3 such packets of flour.
- 8 kg
 - 8.2 kg
 - 8 kg 70 g
 - 8700 g
-
42. Aman is 1.42 m tall. His brother is 15 cm taller than Aman. Their total height is _____ m.
- 2.57
 - 1.66
 - 2.99
 - 1.37
-

43. Meenal joined three activities i.e. table tennis, dancing and abacus.
- She went for table tennis class once in every 3 days.
 - She went for dancing class once in every 4 days.
 - She went for abacus class once in every 6 days.
- The given calendar shows that Meenal did all the activities on 5th June. On which day will Meenal again do all three activities on the same day?

46. Match the columns.

Column-I

- MCMXCIX – MDXLIX
 - MMXLV + MDLXIX
 - MCMLVIII – MCDXCIX
 - MDXXXIX – MCCXXX
- | | | | |
|------------|------------|------------|------------|
| (a) | (b) | (c) | (d) |
| A. (i) | (ii) | (iii) | (iv) |
| B. (ii) | (iii) | (i) | (iv) |
| C. (iv) | (i) | (iii) | (ii) |
| D. (iv) | (iii) | (ii) | (i) |
-

47. Which of the following statements is CORRECT?

- The fraction $\frac{6}{25}$ is equal to 0.24.
- The fraction $2\frac{2}{25}$ is equal to 2.8.
- The fraction $7\frac{4}{24}$ is equal to 7.15.
- The fraction $1\frac{1}{50}$ is equal to 1.25.

June 20XX

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

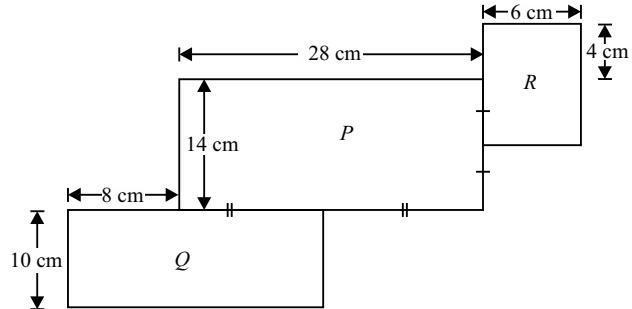
- 12th, Monday
 - 17th, Saturday
 - 21st, Wednesday
 - 30th, Friday
-

44. If $\Delta \times O \times \square = 2880$, $\Delta \times O = 240$ and $2\Delta = 32$, then find $\Delta + O + \square$.
- 53
 - 23
 - 43
 - 63
-
45. Form the greatest seven digit number using all the digits 9, 4, 6, 3 and 2 atleast once.
- 9999999
 - 9996432
 - 9999996
 - 9643299

ACHIEVERS SECTION

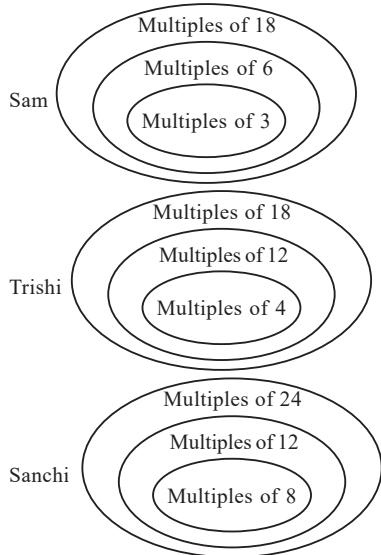
48. Fill in the blanks.

- The area of figure P is (i) sq. cm.
- Area of figure Q is (ii) sq. cm.
- Area of figure R is (iii) sq. cm.
- Sum of areas of figure P and figure R together is (iv) sq. cm more than the area of figure Q.



- | | | | |
|------------|-------------|--------------|-------------|
| (i) | (ii) | (iii) | (iv) |
| A. 392 | 220 | 660 | 47 |
| B. 327 | 320 | 66 | 420 |
| C. 392 | 220 | 66 | 392 |
| D. 392 | 220 | 66 | 238 |

49. Three friends drew Venn diagram for the multiples. Who drew the correct picture?



- A. Sam
- B. Trishi
- C. Sanchi
- D. None of these

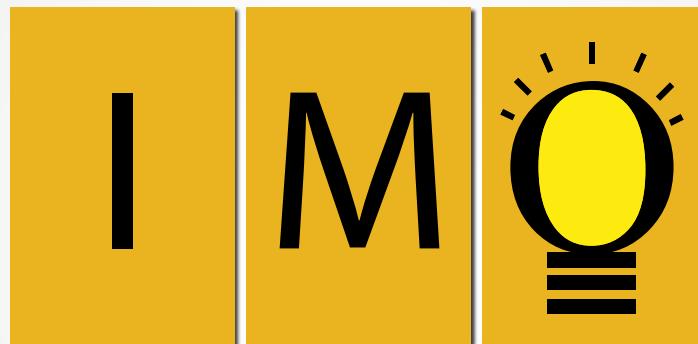
50. Divyank parked his bike from 10 a.m. to 6:50 p.m. on Monday and Sunday. The charges of parking are given below:

Time	Charges (Weekdays)	Charges (Saturday/Sunday/ Public holidays)
6 a.m. to 11 a.m.	₹ 250 per hour	₹ 120 per hour
11 a.m. to 5 p.m.	₹ 350 per hour	₹ 180 per hour
5 p.m. onwards	₹ 10 every 1/2 hour or part thereof	₹ 10 per half hour or part thereof

- (a) How much did Divyank have to pay in total for the parking charges on Monday?
- (b) How much cheaper did he pay for the parking charges on Sunday than on Monday?

- | (a) | (b) |
|-----------|--------|
| A. ₹ 1240 | ₹ 2390 |
| B. ₹ 2390 | ₹ 1240 |
| C. ₹ 2390 | ₹ 1150 |
| D. ₹ 1150 | ₹ 2390 |

SPACE FOR ROUGH WORK



LEVEL - 2

Year 2018-19

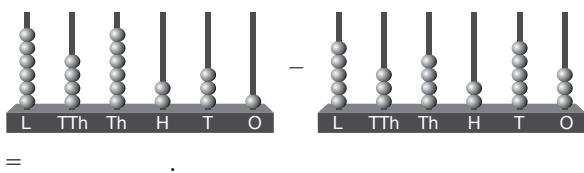
MATHEMATICS

1. Which of the following options makes the given expression true?

$$102536 + 325012 - 52500 \boxed{\quad} 205236 + 152121 - 72500$$

- A. >
 - B. =
 - C. <
 - D. Can't be determined
-

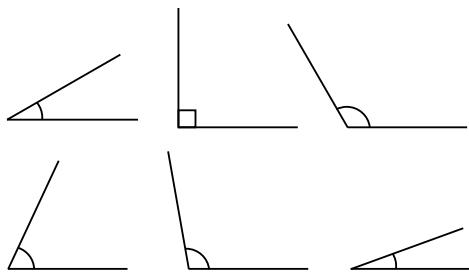
2.



$$= \underline{\hspace{2cm}}.$$

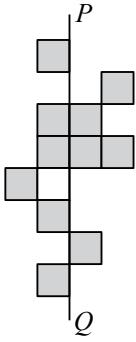
- A. 1,21,320
 - B. 1,11,978
 - C. 1,21,978
 - D. 1,20,321
-

3. How many of the given figures have acute angles?



- A. None
 - B. Two
 - C. Three
 - D. More than three
-

4. What is the minimum number of squares that must be added in the figure so that PQ becomes a line of symmetry?



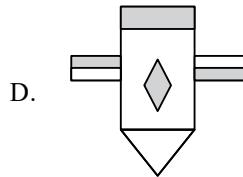
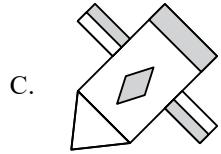
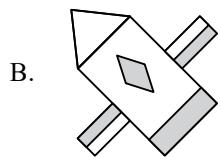
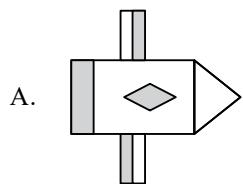
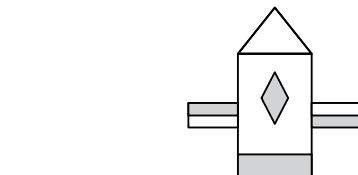
- A. 5
 - B. 8
 - C. 7
 - D. 9
-

5. Select the correct match.

- A. CDXLIX – 649
- B. MMDCL – 2650

- C. DCXLV – 640
 - D. MCLVI – 1250
-

6. Which of the following figures shows the $3\frac{1}{4}$ clockwise rotation of the given figure?



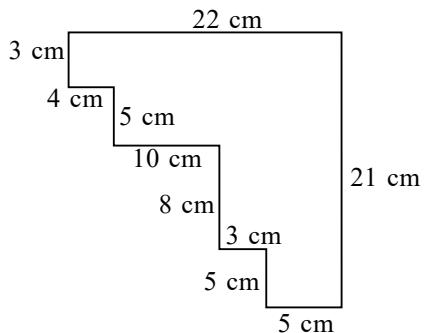
7. Which of the following numbers are arranged in ascending order?

- A. 0.5, 0.06, 2.2, 3.25
 - B. 0.02, 3.04, 4.02, 3.52
 - C. 0.20, 1.25, 2.12, 2.62
 - D. 5.20, 4.13, 3.25, 1.20
-

8. Find the difference between the greatest and the smallest 7-digit numbers formed by using the digits 2, 1, 0, 3, 5. (Each digit should be used at least once)

- A. 5260325
- B. 4552975
- C. 4320765
- D. 3251260

9. Find the area of the given figure (not drawn to scale).



- A. 238 sq. cm
- B. 245 sq. cm
- C. 312 sq. cm
- D. 315 sq. cm

10. Dhavi works 32 hours in five days from Monday to Friday. She worked $4\frac{1}{2}$ hours on Monday, 8 hours on Tuesday and $3\frac{1}{2}$ hours on Wednesday. How many hours did she work on Thursday and Friday together?

- A. $12\frac{1}{2}$ hours
- B. 16 hours
- C. $13\frac{1}{2}$ hours
- D. 15 hours

11. The temperature outside the room is 19°C less than the temperature inside the room. If the temperature inside the room is shown here, then find the temperature outside the room.



- A. 32°C
- B. 7°C
- C. 45°C
- D. 26°C

12. A tea plucker plucked tea leaves on three successive days. If he plucked 2,12,350 tea leaves on Monday, 3,12,250 on Tuesday and 1,23,520 on Wednesday, then how many tea leaves were plucked in all during the three days?

- A. 3,291,60
- B. 6,48,120
- C. 4,28,120
- D. 5,23,610

13. A Fitness Club advises every person to drink $3\frac{1}{4}$ L of water in the morning, $1\frac{1}{2}$ L of water in the afternoon and $\frac{3}{4}$ L of water before going to bed. How much water should a person drink during the day according to the Fitness Club?

- A. 6 L
- B. $4\frac{1}{4}$ L
- C. $5\frac{1}{2}$ L
- D. $5\frac{1}{4}$ L

14. Shruti, Kirti and Priya have ₹ 10250 altogether. If Shruti has ₹ 1100 less than Kirti and Kirti has ₹ 1400 more than Priya, then how much money Shruti have?

- A. ₹ 1250
- B. ₹ 2520
- C. ₹ 3150
- D. ₹ 4200

15. The difference between 42250 and 31125 rounded off to the nearest thousands is

- A. 13000
- B. 11000
- C. 12000
- D. 11125

16. How many letters of the given word have at least one line of symmetry?

CREATIVE

- A. 3
- B. 6
- C. 8
- D. None of these

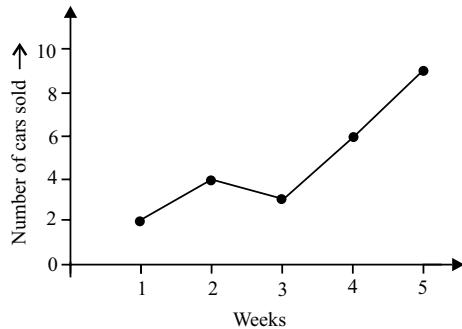
17. An empty basket weighs 1 kg 250 g. Karan put some balls of weight 75 g each. Now, the total weight of the basket is 2 kg 150 g. How many balls did Karan put in the basket?

- A. 10
- B. 15
- C. 12
- D. 18

18. Subtract 84 hundredths from the product of 3.12 and 7. The resultant number obtained is _____.

- A. 21
- B. 18.02
- C. 22.04
- D. 30.05

19. The line graph given below shows the number of cars Jatin sold over the past 5 weeks.



If he got ₹ 20000 for every car sold, then what is the total amount he made over the past 5 weeks?

- A. ₹ 280000
B. ₹ 240000
C. ₹ 480000
D. ₹ 500000
20. The length of a rectangle is $\frac{3}{2}$ times of its breadth. If its perimeter is 120 m, then find its area.

- A. 3456 sq. m
B. 864 sq. m
C. 748 sq. m
D. 1240 sq. m

Direction (21-22) : The given pictograph shows the number of vehicles parked in a parking area. Study the pictograph carefully and answer the following questions.

Bike				
Car				
Scooter				
Jeep				
Each denotes 10 vehicles.				

21. How many more bikes were parked than the total number of scooters and jeeps parked together?

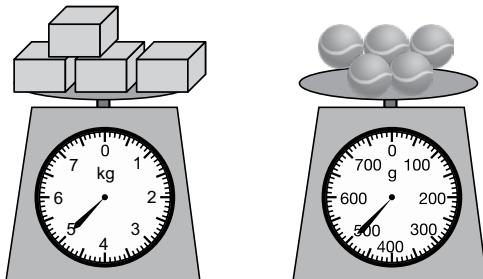
- A. 10
B. 20
C. 30
D. 15

22. What is the fraction of the total number of cars to the total number of vehicles parked?

- A. $\frac{8}{17}$
B. $\frac{5}{17}$

- C. $\frac{8}{11}$
D. $\frac{9}{11}$

23. Study the given balances carefully and answer the question that follows.



Find the weight of 2 + 2 .

- A. 1 kg 350 g
B. 1 kg 450 g
C. 2 kg 700 g
D. 700 g

24. In 232450, the place value of 2 in the lakhs place is _____ times the place value of 2 in the thousands place.

- A. 2
B. 1000
C. 10
D. 100

25. Which of these could be solved by using the sentence 'A – 5'?

- A. Ishan is 5 times as old as Sanjit. If A is Sanjit's age in years, then how old is Ishan ?
B. Tarun is 5 years younger than Anny. If A is Anny's age in years, then how old is Tarun ?
C. Naman is one-fifth as old as Aman. If A is Naman's age in years, then how old is Aman ?
D. Geet is 5 years older than Suhana. If A is Suhana's age in years, then how old is Geet ?

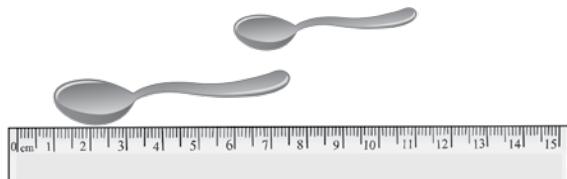
26. Which of the following is incorrect?

- A. $5 + \frac{3}{100} + \frac{2}{10} = 5.23$
B. $0.2 \times 1000 = 200$
C. $0.05 + 8.20 - 0.03 = 8.02$
D. All of these

27. A person can paint a wall in 45 minutes. How many such walls can he paint in 9 hours?

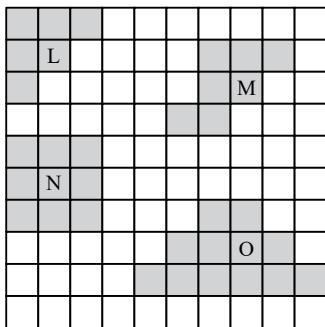
- A. 8
B. 10
C. 12
D. 15

28. The given figure shows two spoons. What is the difference in length of both the spoons?



- A. 1.5 cm
B. 0.5 cm
C. 2.5 cm
D. 2 cm

29. Select a pair from the given shapes which has the same perimeter.



- A. L and M
B. M and O
C. L and N
D. N and O

30. Kapil has a wire 90 m long. He cut $\frac{1}{3}$ of the total wire and cut the rest into 4 equal pieces. Find the length of each of four pieces.

- A. 14 m
B. 15 m
C. 16 m
D. 24 m

31. Three tanks A, B and C contains 291 L of oil altogether. Tank A contains twice as much oil as Tank B. Tank C contains 59 L less oil than Tank A. How much quantity of oil is there in Tank C?

- A. 85 L
B. 81 L
C. 72 L
D. 89 L

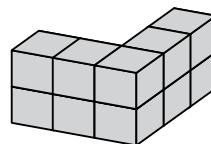
32. The given table shows the height of five students.

Students	Height (in cm)
Shreya	120.5
Sanchi	145
Sumit	150.5
Saurav	130
Saransh	?

If the total height of all the five students is 6 m 71 cm, then find the height of Saransh.

- A. 123.5 cm
B. 121 cm
C. 125 cm
D. 118 cm

33. Find the number of unit cubes in the given figure.



- A. 8
B. 10
C. 12
D. 9

34. The LCM and HCF of 24, 36 and 40 respectively are

- A. 360, 4
B. 360, 12
C. 180, 4
D. 180, 12

35. How many straight angles and right angles are there in 5 complete turns?

- A. 10, 10
B. 10, 20
C. 18, 12
D. 12, 15

36. Priyansh wants to buy a bike costs ₹ 64500. If he has ₹ 15000 and he saves ₹ 1500 every month, then how many months does he need to save in order to pay for the bike?

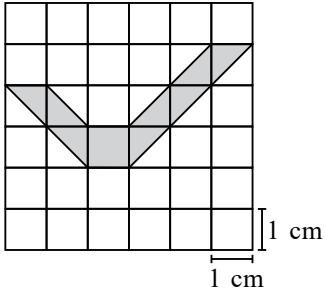
- A. 43
B. 40
C. 42
D. 33

37. What is the value of $212920 - 102580 \times 0 + 20000 \div 2$?

- A. 222920
B. 0
C. 112920
D. 1

38. A number exceeds 4232180 by 30500. Find one-fourth of the number.

- A. 1065670
B. 4262680
C. 3245320
D. None of these

39. Select the incorrect option.
- Greatest factor of a number is the number itself.
 - 2 and 3 are consecutive prime numbers.
 - The smallest prime number is 1.
 - 1 is the factor of every number.
-
40. Find the area of the shaded region.
- 
- A. 7 sq. cm
B. 5 sq. cm
C. 6 sq. cm
D. None of these
-
41. A factory produces 803162 bulbs in a particular month. Next month, it produces 8562 less bulbs than the previous month. Find the total bulbs produced by the factory in both the months.
- 811724
 - 794600
 - 1597762
 - 1606324
-
42. Add the 5th multiple of 12 and 7th multiple of 15. The value obtained is 435 less than X. Find X.
- 600
 - 400
 - 200
 - 500
-
43. If 6 pieces of ribbon costs ₹ 73.80, then what is the price of 19 such ribbons?
- ₹ 120
 - ₹ 233.70
 - ₹ 200
 - ₹ 157.30
-
44. A school is organising a 3-day trip to Thailand at ₹ 25000 per child. Out of 45 children, 20 opt to go. Find the total money collected for the trip.
- ₹ 450000
 - ₹ 900000
 - ₹ 500000
 - ₹ 480000
-
45. The minimum number of match sticks that can be required to write 27 in roman number system is _____.
- 8
 - 7
 - 6
 - 5

ACHIEVERS SECTION

46. Match the following and select the correct option.
- | Column I | Column II |
|---|------------------|
| (i) 19 hundredths less than 27.6 is _____ more than 27. | (p) 3047 |
| (ii) Subtract 3032.5 from the product of 289.5 and 21. | (q) 0.41 |
| (iii) The quotient when 64464 is divided by 16 is | (r) 4029 |
- A. (i) → (q); (ii) → (r); (iii) → (p)
B. (i) → (p); (ii) → (q); (iii) → (r)
C. (i) → (q); (ii) → (p); (iii) → (r)
D. (i) → (r); (ii) → (q); (iii) → (p)
-

47. Read the statements carefully and select the correct option.

Statement-I : If carpet is laid on the floor of a room 10 m by 6 m, leaving a border 1 m wide all around it, then the perimeter of the carpet is 24 m.

Statement-II : The perimeter of a rectangle is 12 cm. If the measure of length is $\frac{3}{2}$ cm more than its breadth, then the breadth of the rectangle is 2.25 cm.

- Both Statement-I and Statement-II are true.
- Statement-I is true but Statement-II is false.
- Statement-I is false but Statement-II is true.
- Both Statement-I and Statement-II are false.

48. On a particular Sunday, a coffee shop sold the following items.

Items	Number of cups sold
Tea	320
Coffee	450

The cost of a cup of coffee is twice the cost of a cup of tea. If the total amount earned by the shop owner is ₹ 12200, then the cost of one cup of tea and one cup of coffee respectively are

- ₹ 10, ₹ 20
- ₹ 13, ₹ 26

- C. ₹ 15, ₹ 30
D. ₹ 20, ₹ 40
-

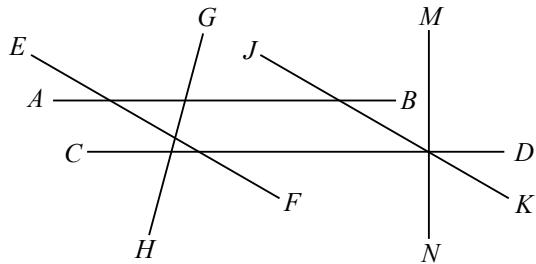
49. Aanya is thinking of a five digit number.

- Its tens digit is the smallest prime number.
- Its ones digit is twice the hundreds digit.
- When ten thousands digit is divided by tens digits, the quotient is 3.
- Its hundreds digit is three less than the ten thousands digit.
- Its thousands digit is the largest one digit odd number.

Find the number Aanya is thinking of.

- A. 39210
B. 39020
C. 69326
D. 69236

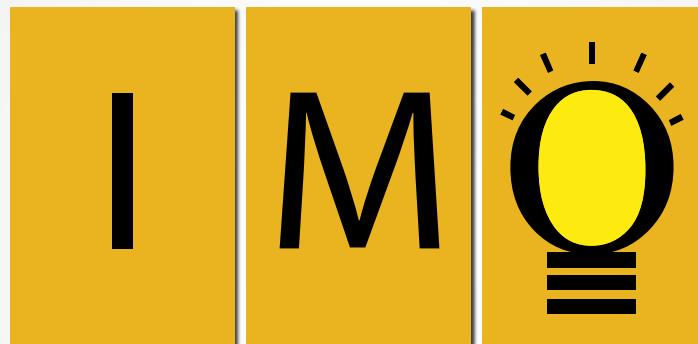
50. Study the given figure carefully and fill in the blanks.



- (i) Number of pairs of parallel lines are (P).
(ii) Number of pairs of perpendicular lines are (Q).
(iii) There are (R) lines which are intersecting with AB.

- | (P) | (Q) | (R) |
|--------|-----|-------|
| A. Two | Two | Three |
| B. Two | One | Three |
| C. One | Two | Two |
| D. One | One | Two |

SPACE FOR ROUGH WORK



LEVEL - 2

Year 2019-20

MATHEMATICS

1. Which of the following statements is CORRECT?
- A square has only 2 equal sides.
 - A rectangle has 2 pairs of equal sides.
 - A square has 2 lines of symmetry.
 - A rectangle has 4 lines of symmetry.
-

2. Three Roman numerals A , B and C , each having "V" only once in the place shown. Other two Roman numerals are either I or X or both.

$A :$

V		
---	--	--

$B :$

	V	
--	---	--

$C :$

		V
--	--	---

Which of the following statements is true?

- The smallest number is A .
 - Difference between A and B is 8.
 - B and C represents same number.
 - None of these
-

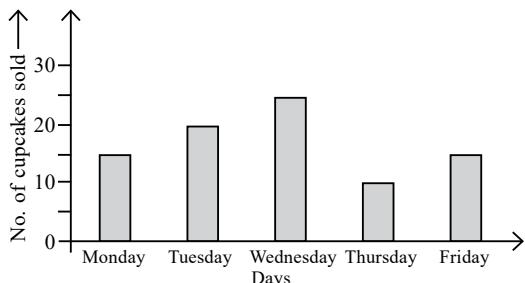
3. How many sixths are there in $2\frac{1}{2} + 4\frac{1}{2} + 3\frac{1}{4} + 3.75$?

- 56
 - 84
 - 94
 - 14
-

4. On Monday, temperature was 20°C . On Tuesday, it had gone down by 3°C and then on Wednesday, it had gone up by 8°C . What was the temperature on Wednesday?

- 31°C
 - 35°C
 - 25°C
 - 18°C
-

5. The given graph shows the number of cupcakes sold by Tanmay on five consecutive days.



What fraction of total cupcakes is sold on Wednesday?

- $4/17$
 - $5/17$
-

- $6/17$
- $12/17$

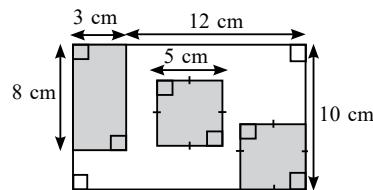
6. Karan spend $\frac{1}{3}$ of his salary and saved ₹ 1500 every month. How much did he earn in a year?

- ₹ 27000
 - ₹ 17200
 - ₹ 37000
 - ₹ 31600
-

7. A towel costs ₹ 59.90 and a bar of soap costs ₹ 12.40. Mrs Kapoor bought 2 towels and 3 bars of soap. How much did she pay altogether?

- ₹ 132.30
 - ₹ 164
 - ₹ 157
 - ₹ 144.60
-

8. In the given figure (not drawn to scale), what fraction of the total area is shaded?



- $\frac{34}{75}$
 - $\frac{37}{75}$
 - $\frac{34}{150}$
 - $\frac{37}{150}$
-

9. Anita filled a tank with 8 L 725 mL of oil, a can with 3 L 25 mL of oil and a bottle with 725 mL of oil. How much quantity of oil did Anita have altogether?

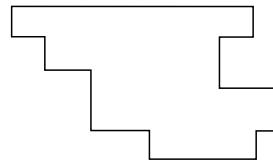
- 12 L 475 mL
 - 14 L 475 mL
 - 12 L 450 mL
 - 14 L 450 mL
-

10. An empty jar weighs 3 kg 125 g. Reshma put some marbles of weight 54 g each. Now, the total weight of the jar is 4 kg 97 g. How many marbles did Reshma put in the jar?

- 24
- 15
- 12
- 18

11. When ♠ is subtracted from 65 thousands, the answer is 150 tens less than 62 thousands. How many hundreds is ♠ ?
- 4.5
 - 45
 - 450
 - 4500
-
12. There are 125 passengers in a train. 20 of them are children while the rest are adults. If $\frac{5}{7}$ of the adults are men, then what fraction of the total passengers in the bus are women?
- $\frac{8}{25}$
 - $\frac{16}{25}$
 - $\frac{6}{25}$
 - $\frac{2}{7}$
-
13. In 15753.532, the sum of place values of 5's is _____ more than the sum of place values of 3.
- 5050.47
 - 5046.97
 - 5047.20
 - 5047.47
-
14. Shikha makes a profit of rupees eighty five crore three lakh fifty five thousand thirty nine. Her profit can be written in numerals as
- ₹ 850,355,039
 - ₹ 85,03,55,039
 - ₹ 85,03,55,390
 - ₹ 8,53,67,249
-
15. Which of the following shapes can be tessellated?
-
- Only P and R
 - Only Q and S
 - Only S
 - None of these
-
16. If area of 12 identical squares is 768 sq. cm, then find the perimeter of a square.
- 35 cm
 - 21 cm
 - 28 cm
 - 32 cm

17. How many angles inside the given figure are equal to three right angles?



- 4
- 6
- 3
- 7

18. The value of $(MDCLX + MMCCIX) - (MDCIV + CMXLVI) =$

- MCCIX
- MCCCIX
- MCCCXIX
- MCCXIX

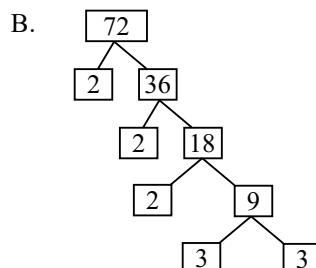
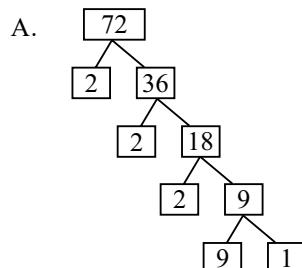
19. Kunal cut a wire and bent it to form 6 similar rectangles. The breadth of each rectangle is 4 cm less than the half of its length. If the breadth of a rectangle is 18 cm, then what is the original length of the wire?

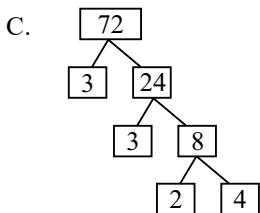
- 656 cm
- 744 cm
- 696 cm
- 764 cm

20. A rope P is 9.5 m long. The length of rope Q is $\left(\frac{2}{5}\right)^{\text{th}}$ of the length of rope P. What is the total length of both the ropes?

- 13.3 m
- 15.2 m
- 11.4 m
- 14.3 m

21. Which of the following options shows the correct prime factorisation of 72 ?





D. Both A and B

22. A certain number when divided by 3 gives a remainder of 1. The same number when divided by 4 gives a remainder of 3. Which of the following can be the number?

- A. 109
- B. 71
- C. 82
- D. 79

23. If $\frac{7}{25}$ of a number is 21 more than $\frac{1}{4}$ of the same number, then find the number.

- A. 800
- B. 750
- C. 600
- D. 700

24. Which of the following statements is/are false?

- P. Successor of largest 7-digit number is 10 million.
- Q. Estimated value of largest 6-digit number rounded to the nearest hundreds is the smallest 6-digit number.
- A. Only P
- B. Only Q
- C. Both P and Q
- D. Neither P nor Q

25. Rajat bought 14 kg 460 g of tomatoes. If he can put 1 kg 205 g of tomatoes in each bag, then how many bags does he need to put all the tomatoes?

- A. 14
- B. 10
- C. 12
- D. 8

26. Which of the following options is correct?

- A. 8 L 42 mL = 842 mL
- B. 3 hm 4 dam = 340 m
- C. 75 km 15 m = 7515 m
- D. 2 dg 5 cg = 205 mg

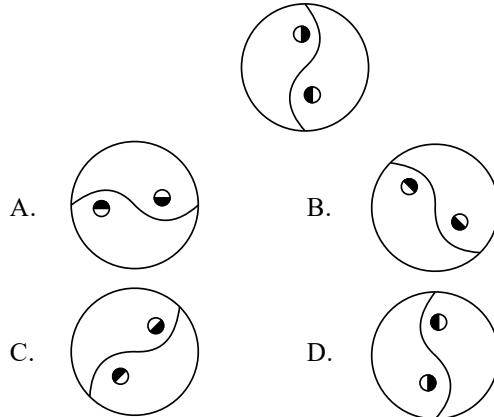
27. The given table shows the timings of a showroom. Study it carefully and answer the question that follows.

Day	Time
Mon - Fri	9:30 a.m. - 5:00 p.m.
Sat - Sun	9:45 a.m. - 2:00 p.m.

Sameer arrived at the showroom at 8:15 a.m. on Wednesday. How long will he have to wait for the showroom to open? If he arrived at the same time on Sunday, then how long will he have to wait?

- A. 1 hr 15 mins, 1 hr 40 mins
- B. 1 hr 5 mins, 1 hr 40 mins
- C. 1 hr 5 mins, 1 hr 30 mins
- D. 1 hr 15 mins, 1 hr 30 mins

28. Which of the following figures shows $2\frac{1}{4}$ anti-clockwise rotation of the given figure?



29. The given table shows the fare of travelling from two cabs X and Y. Study it carefully and answer the following question.

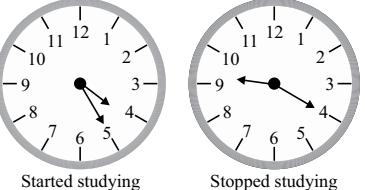
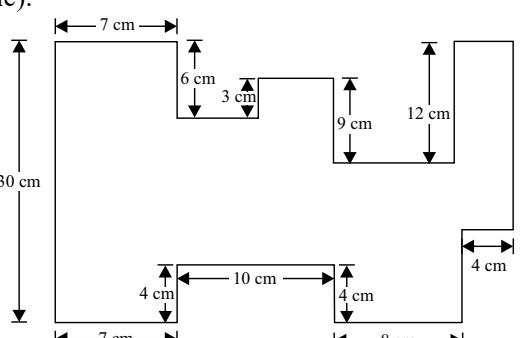
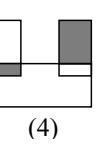
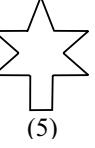
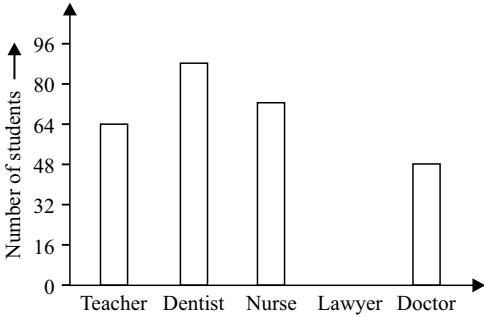
	Fare (1 st km)	Every additional (1/2) km or part thereof
Cab X	₹ 28.40	₹ 6.25
Cab Y	₹ 24.50	₹ 8.45

How much total money Sneha has to pay if she travels 4.5 km by Cab Y and 3.5 km from Cab X?

- A. ₹ 143.30
- B. ₹ 115.90
- C. ₹ 215.90
- D. ₹ 275.30

30. Select the incorrect option.

- A. Triangles with all unequal sides is called a scalene triangle.
- B. At 1:15, the smaller angle formed between the two hands of a clock is acute angle.
- C. Lines intersecting at 90° are called perpendicular lines.
- D. An angle greater than 90° but less than 360° is called an obtuse angle.

31. If 14 tenths 25 hundredths is subtracted from the product of 4.42 and 6, then the resultant number obtained is _____.
 A. 24.87
 B. 18.64
 C. 22.87
 D. 30.64
-
32. How much greater is the smallest 5-digit number with all different digits than the largest 4-digit number with all different digits?
 A. 2469
 B. 88889
 C. 358
 D. 2464
-
33. Ramya started studying at time shown below. After 2 hours 15 minutes, she stopped and took some rest. She then again studied for another 1 hour 45 minutes and then stopped at the time shown. How long was her rest period?
- 
- A. 50 mins
 B. 1 hr
 C. 1 hr 05 mins
 D. 55 mins
-
34. Find the perimeter of the given figure (not drawn to scale).
- 
- A. 156 cm
 B. 183 cm
 C. 146 cm
 D. None of these
-
35. Which of the following figures are symmetric?
 (1) 
 (2) 
 (3) 
 (4) 
 (5) 
- A. Only (1) and (5)
 B. Only (2) and (5)
 C. Only (1), (2), (3) and (4)
 D. Only (1), (3) and (5)
-
36. ★ is twice the difference between the 6th and the 10th multiple of 7. Find ★.
 A. 38
 B. 56
 C. 60
 D. 28
-
37. Niharika has ₹ 9600. She spends 1/3 of her money on clothes and 1/2 of the remaining money on food. How much money is left with her?
 A. ₹ 1600
 B. ₹ 3200
 C. ₹ 6400
 D. ₹ 3600
-
38. The given graph shows the career chosen by students of a class. The total students in the class is 300. Study the graph carefully and answer the question that follows.
- 
- | Career | Number of students |
|---------|--------------------|
| Teacher | 64 |
| Dentist | 92 |
| Nurse | 72 |
| Lawyer | 24 |
| Doctor | 48 |
- How many students chooses Lawyer as the career?
 A. 20
 B. 28
 C. 32
 D. 24
-
39. The given table shows the weight of five friends.
- | Students | Weight (in kg) |
|----------|----------------|
| Kavya | 56.5 |
| Kamal | 68.5 |
| Aman | ? |
| Karan | 49 |
| Aanchal | 53.5 |
- If the total weight of all the five students is 289 kg 500 g, then find the weight of Aman.
 A. 61 kg 500 g
 B. 61 kg
 C. 62 kg 500 g
 D. 62 kg

40. Three containers P, Q, and R contains 425 L of water altogether. Container P contains thrice as much water as container Q. Container R contains 19 L more water than container P. How much quantity of water is there in container R?
- A. 183 L
B. 174 L
C. 203 L
D. 193 L
-
41. Tanya has 7.8 m of thread. If she needs 3 m thread to make a necklace, then how many necklaces can she make and how much thread is left with her?
- A. 2, 1.8 m
B. 1, 1.8 m
C. 1, 0.8 m
D. 2, 0.8 m
-
42. 520 g of tiny pink pebbles are mixed with 580 g of tiny purple pebbles. Vihan packed the mixture of tiny pebbles into 5 equal packets. How many grams of the mixture are there in each packet?
- A. 220
B. 330
C. 230
D. 150
-
43. The table below shows the cost of cashews at stalls X, Y and Z.
- | Stall | X | Y | Z |
|------------------|--------------|-----------------|-----------------|
| Price of cashews | ₹ 180 per kg | ₹ 117 for 650 g | ₹ 162 for 900 g |
- Which of the following stalls sell the cashews at the same price?
- A. Only X and Z
B. Only X and Y
C. Only Y and Z
D. X, Y and Z
-
44. Atul had ₹ 2000. He bought potatoes for ₹ 115.40, rice for ₹ 310.50, sugar for ₹ 549.45 and fruits for ₹ 498.99. How much money is left with him?
- A. ₹ 520.75
B. ₹ 545.66
C. ₹ 425.75
D. ₹ 525.66
-
45. Find the HCF and LCM respectively of 42, 63 and 105.
- A. 7, 630
B. 21, 1260
C. 21, 630
D. 7, 1260

ACHIEVERS SECTION

46. Rashi think of a 6-digit number. Find the number using the given clues.
- The digit at thousands place is more than the digit at tens place by 5.
 - The digit at lakhs place is HCF of 3 and 7.
 - The digit at tens place is the smallest odd prime number.
 - The digit at ten thousands place is 3rd multiple of 2.
 - The digit at ones place is 4 less than the digit at ten thousands place.
 - The digit at hundreds place is product of digit at lakhs place and ones place.
- A. 166212
B. 158232
C. 168232
D. 756212
-

47. If  +  +  +  = 1160;
 +  +  = 740

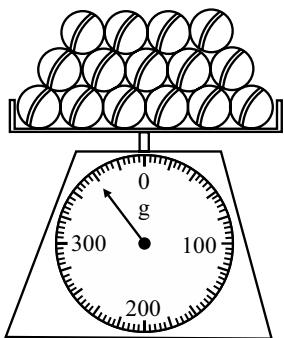
and  -  = 120, then the value of

 +  +  +  = _____.

- A. 780
B. 1020
C. 1180
D. 880
-

48. Match the following and select the correct option.
- | Column A | Column B |
|--|---------------|
| (P) Sum of 25.89, 149.9, 76.05 and 43.008 is | (i) 1120.972 |
| (Q) Subtract 43.988 from the product of 145.62 and 8. | (ii) 738.78 |
| (R) $900 + 70 + \frac{8}{10} + \frac{4}{100} + \frac{6}{1000} =$ | (iii) 294.848 |
| (S) $(49.5 \times 17) - (12.84 \times 8) =$ | (iv) 970.846 |
- A. (P)→(iii), (Q)→(i), (R)→(ii), (S)→(iv)
B. (P)→(iii), (Q)→(i), (R)→(iv), (S)→(ii)
C. (P)→(i), (Q)→(iii), (R)→(iv), (S)→(ii)
D. (P)→(i), (Q)→(iii), (R)→(ii), (S)→(iv)

49. Read the statements carefully and select the correct option.



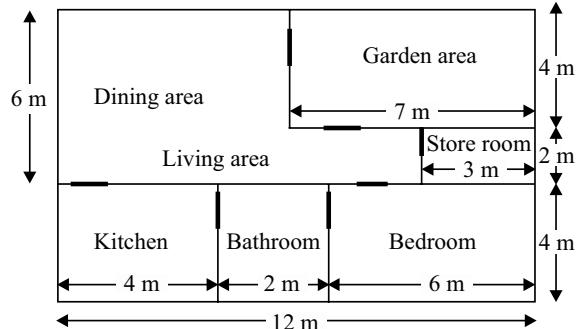
Statement-1 : Value of weight of 12 such balls is 8th multiple of 36.

Statement-2 : Weight of 8 such balls is 72 g more than weight of 5 such balls.

- A. Both Statement-1 and Statement-2 are true.
B. Statement-1 is true but Statement-2 is false.

- C. Statement-1 is false but Statement-2 is true.
D. Both Statement-1 and Statement-2 are false.

50. Study the given figure carefully and answer the question that follows.



What is the total area of living and dining room?

- A. 35 sq. m
B. 36 sq. m
C. 37 sq. m
D. 38 sq. m

SPACE FOR ROUGH WORK

ANSWER KEYS

IMO 2016

1.	(C)	9.	(A)	17.	(A)	25.	(D)	33.	(D)	41.	(D)	49.	(D)
2.	(B)	10.	(A)	18.	(C)	26.	(C)	34.	(B)	42.	(B)	50.	(C)
3.	(B)	11.	(C)	19.	(B)	27.	(A)	35.	(C)	43.	(D)		
4.	(A)	12.	(D)	20.	(A)	28.	(A)	36.	(D)	44.	(D)		
5.	(A)	13.	(A)	21.	(D)	29.	(B)	37.	(D)	45.	(A)		
6.	(B)	14.	(B)	22.	(C)	30.	(A)	38.	(B)	46.	(D)		
7.	(C)	15.	(C)	23.	(D)	31.	(A)	39.	(B)	47.	(B)		
8.	(C)	16.	(B)	24.	(C)	32.	(B)	40.	(C)	48.	(D)		

IMO 2017

1.	(B)	2.	(D)	3.	(D)	4.	(A)	5.	(B)	6.	(D)	7.	(B)
8.	(A)	9.	(A)	10.	(C)	11.	(A)	12.	(D)	13.	(C)	14.	(A)
15.	(B)	16.	(C)	17.	(B)	18.	(D)	19.	(A)	20.	(A)	21.	(A)
22.	(B)	23.	(A)	24.	(A)	25.	(B)	26.	(D)	27.	(C)	28.	(A)
29.	(C)	30.	(B)	31.	(A)	32.	(C)	33.	(A)	34.	(A)	35.	(A)
36.	(A)	37.	(D)	38.	(A)	39.	(A)	40.	(C)	41.	(D)	42.	(A)
43.	(C)	44.	(B)	45.	(C)	46.	(C)	47.	(D)	48.	(A)	49.	(C)
50.	(C)												

IMO 2018

1.	(A)	9.	(B)	17.	(A)	25.	(A)	33.	(D)	41.	(D)	49.	(D)
2.	(C)	10.	(A)	18.	(A)	26.	(C)	34.	(C)	42.	(C)	50.	(C)
3.	(B)	11.	(B)	19.	(B)	27.	(D)	35.	(C)	43.	(B)		
4.	(D)	12.	(A)	20.	(A)	28.	(A)	36.	(A)	44.	(C)		
5.	(B)	13.	(D)	21.	(C)	29.	(B)	37.	(C)	45.	(B)		
6.	(C)	14.	(C)	22.	(B)	30.	(B)	38.	(D)	46.	(C)		
7.	(C)	15.	(A)	23.	(C)	31.	(A)	39.	(C)	47.	(A)		
8.	(A)	16.	(D)	24.	(B)	32.	(C)	40.	(A)	48.	(D)		

IMO 2019

1.	(A)	9.	(B)	17.	(C)	25.	(B)	33.	(B)	41.	(C)	49.	(C)
2.	(B)	10.	(B)	18.	(A)	26.	(C)	34.	(A)	42.	(A)	50.	(B)
3.	(C)	11.	(B)	19.	(C)	27.	(C)	35.	(B)	43.	(B)		
4.	(C)	12.	(B)	20.	(B)	28.	(A)	36.	(D)	44.	(C)		
5.	(B)	13.	(C)	21.	(A)	29.	(C)	37.	(A)	45.	(A)		
6.	(A)	14.	(C)	22.	(A)	30.	(B)	38.	(A)	46.	(C)		
7.	(C)	15.	(B)	23.	(C)	31.	(B)	39.	(C)	47.	(A)		
8.	(B)	16.	(D)	24.	(D)	32.	(C)	40.	(B)	48.	(A)		

IMO 2020

- | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1. | (B) | 2. | (A) | 3. | (B) | 4. | (C) | 5. | (B) | 6. | (A) | 7. | (C) |
| 8. | (B) | 9. | (A) | 10. | (D) | 11. | (B) | 12. | (C) | 13. | (D) | 14. | (B) |
| 15. | (C) | 16. | (D) | 17. | (B) | 18. | (C) | 19. | (B) | 20. | (A) | 21. | (B) |
| 22. | (D) | 23. | (D) | 24. | (B) | 25. | (C) | 26. | (B) | 27. | (D) | 28. | (A) |
| 29. | (A) | 30. | (D) | 31. | (A) | 32. | (C) | 33. | (D) | 34. | (A) | 35. | (A) |
| 36. | (B) | 37. | (B) | 38. | (B) | 39. | (D) | 40. | (D) | 41. | (A) | 42. | (A) |
| 43. | (D) | 44. | (D) | 45. | (C) | 46. | (C) | 47. | (A) | 48. | (B) | 49. | (A) |
| 50. | (D) | | | | | | | | | | | | |