



EXCELLENCE IN EDUCATION

International Olympiad Foundation

SAMPLE PAPER

International Olympiad Foundation

14+

OLYMPIADS

MCQ

FORMAT

0

NEGATIVE MARKS

OLYMPIAD

Mathematics Olympiad

International Olympiad Foundation (IOF) · www.iof.education

CLASS / GRADE

Class 8

SUBJECT

IFMO

DURATION

60 Min

MAX MARKS

50

GENERAL INSTRUCTIONS

- All questions are Multiple Choice Questions (MCQs) with options A, B, C, D, E
- Each correct answer carries 1 mark. No negative marking for wrong answers.
- Rough work should be done separately. Do not write on question paper.

PAPER HIGHLIGHTS

• Multiple Choice Questions (MCQ)

Five options per question (A, B, C, D, E). Select the single most appropriate answer.

• No Negative Marking

1 mark per correct answer. Zero deductions — attempt every question.

• Conducted by IOF

International Olympiad Foundation — fostering excellence among students across India.

SUBJECTS

- Cyber
- English
- Entrepreneurship
- Mathematics
- Commerce
- Economics
- GK & Current Affairs
- Science
- Western Music
- Sanskrit
- Indian Music
- Hindi
- Reasoning & Aptitude
- Spell Talent

ALL IOF OLYMPIAD PROGRAMMES

IFCO International Foundation Cyber Olympiad	IFEOL International Foundation English Olympiad	IFEnO International Foundation Entrepreneurship Olympiad	IFMO International Foundation Mathematics Olympiad	ICS Institute of Company Secretaries of India Commerce Olympiad	IFEcO International Foundation Economics Olympiad	IFGCO International Foundation General Knowledge & Current Affairs Olympiad
IFSO International Foundation Science Olympiad	IFWMuO International Foundation Western Music Olympiad	IFSaO International Foundation Sanskrit Olympiad	IFIMuO International Foundation Indian Music Olympiad	IFHO International Foundation Hindi Olympiad	IFRAO International Foundation Reasoning & Aptitude Olympiad	IFSTO International Foundation Spell Talent Olympiad

Q1. Which word completes the second pair in the same way as first pair?

[+1]
[-0]

Hermit : Solitude :: Intruder : ?

- A. Player
- B. Privacy
- C. Burglar
- D. Alm
- E. None of these

Q2. Choose the correct option.

[+1]
[-0]

Hygienic is related to Polluted in the same way as Knowing is related to

- A. Ingenuous
- B. Uncommon
- C. Secret
- D. Sagacious
- E. None of these

Q3. Select the lettered pair that has the same relationship as the original pair of words.

[+1]
[-0]

Identity: Anonymity

- A. Cloud: Rain
- B. Flaw : Perfection
- C. Careless : Mistake
- D. Fear : Joy
- E. None of these

Q4. Choose the odd one out.

[+1]
[-0]

Sahara , Thar , Gobi , Sunder ban , Kalahari

- A. Sahara
- B. Thar
- C. Gobi
- D. Sunder ban
- E. Kalahari

Q5. Choose the odd one out.

[+1]
[-0]

372164 , 376821 , 318951 , 319446 , 387315

- A. 372164
- B. 376821
- C. 318951
- D. 319446
- E. 387315

Q6. Choose the correct option to complete the series.

[+1]
[-0]

5, 17, 37, 65, ?, 145

- A. 95
- B. 97
- C. 99
- D. 101
- E. None of these

Q7. Choose the correct option to continue the series.

[+1]
[-0]

eac gce ieg ?

- A. jhi
- B. jgi
- C. kgj
- D. khi
- E. kij

Q8. If SOLVE is coded as TQOZJ, how would you code LOSER?

[+1]
[-0]

- A. MQWIV
- B. MQVIW
- C. MQVWI
- D. MQWVI
- E. None of these

Q9. Pointing towards a person in a photograph, Anjali said, "He is the only son of the father of my sister's brother", How is the person related to Anjali?

[+1]
[-0]

- A. Cousin
- B. Father
- C. Maternal Uncle
- D. Brother
- E. None of these

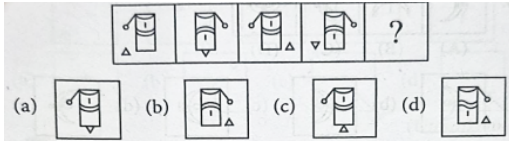
Q10. Two persons are sitting back to back. If the first person's face is towards north, then in which direction will be the right hand of the second person?

[+1]
[-0]

- A. South
- B. East
- C. West
- D. North
- E. None of these

Q11. Choose the correct option to continue the series.

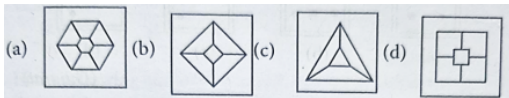
[+1]
[-0]



- A. (a)
- B. (b)
- C. (c)
- D. (d)
- E. None of these

Q12. Choose the figure which is different from the other figures.

[+1]
[-0]

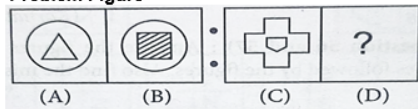


- A. (a)
- B. (b)
- C. (c)
- D. (d)
- E. None of these

Q13. Which figure completes the second pair in the same way as first pair?

[+1]
[-0]

Problem Figure



Answer Figure



- A. (a)
- B. (b)
- C. (c)
- D. (d)
- E. None of these

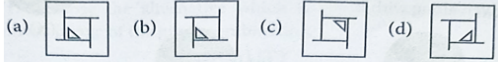
Q14. Find out the correct mirror image of the given figure.

[+1]
[-0]

Problem Figure



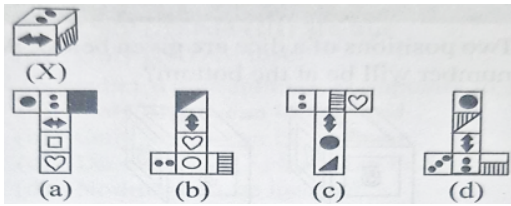
Answer Figure



- A. (a)
- B. (b)
- C. (c)
- D. (d)
- E. None of these

Q15. Select the option (net) which can be folded to form the cube (X).

[+1]
[-0]



- A. (a)
- B. (b)
- C. (c)
- D. (d)
- E. None of these

Q16. Choose the correct option.

[+1]
[-0]

What is the unit digit in $\{ (264)^{102} + (264)^{103} \}$?

- A. 1
- B. 5
- C. 0
- D. 2
- E. None of these

Q17. Choose the correct option.

[+1]
[-0]

If $\frac{2x}{1 + \frac{1}{1 + \frac{x}{1-x}}} = 1$, then find the value of x.

- A. $\frac{3}{2}$
- B. 1
- C. $\frac{2}{3}$
- D. 2
- E. None of these

Q18. Village X has a population of 68000, which is decreasing at the rate of 1200 per year. Village Y has a population of 42000, which is increasing at the rate of 800 per year. In how many years will the population of the two villages be equal?

[+1]
[-0]

- A. 11
- B. 13
- C. 12
- D. 10
- E. None of these

Q19. Simplify the given expression.

[+1]
[-0]

$$\sqrt{[(12.1)^2 - (8.1)^2] \div [(0.25)^2 + (0.25)(19.95)]}$$

- A. 4
- B. 3
- C. $\frac{1}{2}$
- D. 2
- E. None of these

Q20. The average annual income (in Rs.) of certain agricultural workers is S and that of other workers is T. The number of agricultural workers is 11 times that of other workers. Then the average monthly income (in Rs.) of all the workers is

[+1]
[-0]

- A. $\frac{S+T}{2}$
- B. $\frac{S+11T}{2}$
- C. $\frac{1}{11S} + T$
- D. $\frac{11S+T}{12}$

- A. A
- B. B
- C. C
- D. D
- E. None of these

Q21. Choose the correct option.

[+1]
[-0]

The value of $\sqrt{10 + \sqrt{25 + \sqrt{108 + \sqrt{154 + \sqrt{225}}}}}$ is

- A. 4
- B. 6
- C. 8
- D. 10
- E. None of these

- Q22.** Abhay's age after six years will be three seventh of his father's age. Ten years ago, the ratio of their ages was 1:5. What is Abhay's father's age at present? [+1]
[-0]
- A. 45 years
 - B. 50 years
 - C. 48 years
 - D. 46 years
 - E. None of these
- Q23.** An aeroplane flies along the four sides of a square at the speeds of 200, 400, 600 and 800km/hr. Find the average speed of the plane around the field. [+1]
[-0]
- A. 400km/hr
 - B. 384km/hr
 - C. 350km/hr
 - D. 356km/hr
 - E. None of these
- Q24.** A train 100 meters long takes 6 seconds to cross a man walking at 5kmph in a direction opposite to that of the train. Find the speed of the train. [+1]
[-0]
- A. 50 kmph
 - B. 55 kmph
 - C. 48 kmph
 - D. 60 kmph
 - E. None of these
- Q25.** Find the ratio of the areas of the incircle and circumcircle of a square. [+1]
[-0]
- A. 2:1
 - B. 1:2
 - C. 1:3
 - D. 3:1
 - E. None of these
- Q26.** If the perimeters of a square and a rectangle are the same, then the area A and B enclosed by them would satisfy the condition: [+1]
[-0]
- A. $A < B$
 - B. $A \leq B$
 - C. $A > B$
 - D. $A \geq B$
 - E. None of these

Q27. In a game of 80 points, A can give 5 points to B and 15 points to C. Then how many points B can give to C in a game of 60 points ?

[+1]
[-0]

- A. 7
- B. 8
- C. 9
- D. 10
- E. None of these

Q28. Study the given table and answer the question that follows.

[+1]
[-0]

	Items		Cost
P	Hot Dog	i	5 for ₹60
Q	Pastry	ii	4 for ₹20
R	Roll	iii	3 for ₹60

Raju bought 3 hot dogs, 2 pastries and 4 rolls. If he has total ₹ 200 in his pocket, then money left to the total money is represented in the form of (p/q) i.e rational number is

- A. $\frac{37}{50}$
- B. $\frac{74}{200}$
- C. $\frac{126}{200}$
- D. $\frac{36}{100}$
- E. None of these

Q29. Choose the correct option.

[+1]
[-0]

The simplified value of the expression $\frac{2 \cdot 3^{n+1} + 7 \cdot 3^{n-1}}{3^{n+2} - 2\left(\frac{1}{3}\right)^{1-n}}$ is

- A. 1
- B. 3
- C. -1
- D. 0
- E. None of these

Q30. Choose the correct option.

[+1]
[-0]

If $a = \sqrt{2} + 1$ and $b = \sqrt{2} - 1$, then the value of expression $\frac{a^2 - ab + b^2}{a^2 + ab + b^2}$ is

A. $32 - 4\sqrt{2}$

B. $32 + 4\sqrt{2}$

C. 0

D. $\frac{5}{7}$

E. None of these

Q31. Choose the correct option.

[+1]
[-0]

If $\sqrt[3]{3\left(\sqrt[3]{x} - \frac{1}{\sqrt[3]{x}}\right)} = 2$, then the value of $\left(x - \frac{1}{x}\right)$ is

A. $\frac{728}{9}$

B. $\frac{72}{27}$

C. $\frac{728}{27}$

D. $\frac{3}{15}$

E. None of these

Q32. The marked price of a pen is increased by 20% and then a discount of 20% is allowed. If MRP is not increased and discount of 20% is offered, then, by how much percent is the selling price changed?

[+1]
[-0]

A. 25%

B. 20%

C. -20%

D. -10%

E. None of these

Q33. Rahul borrowed some amount at the rate of 6% per annum for first two years, at the rate of 9% per annum for next three years and at the rate of 14% for the period beyond five years at simple interest. If he pays a total interest of Rupees 11400 at the end of nine years, then how much amount did he borrow?

[+1]
[-0]

A. ₹12000

B. ₹13000

C. ₹11000

D. ₹14000

E. None of these

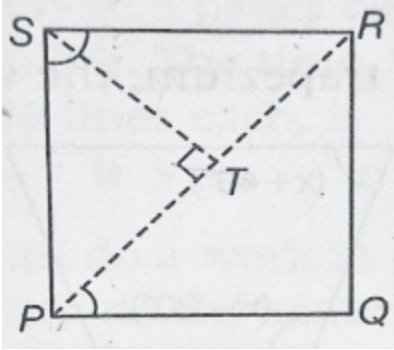
Q34. Two pipes can fill a tank in 30 min and 40 min respectively. Another pipe can empty the full tank in 20 min. If all the pipes are opened and the tank is empty, then how much time it will take to fill the tank to $\frac{1}{2}$ of level?

[+1]
[-0]

- A. 1h
- B. 2h
- C. 3h
- D. $2\frac{1}{2}$ h
- E. None of these

Q35. PQRS is a rectangle. If the perpendicular ST from S on PR divides $\angle S$ in the ratio 2:3, then the measure of $\angle TPQ$ is

[+1]
[-0]



- A. 54°
- B. 36°
- C. 90°
- D. 18°
- E. None of these

Q36. Rekha working 4 hours a day typing 30 pages in a day, completes a project in 40 days. If she starts working 5 hours a day, how many pages she has to type per day to complete her project in 30 days?

[+1]
[-0]

- A. 18
- B. 24
- C. 30
- D. 40
- E. None of these

Q37. Choose the correct option.

[+1]
[-0]

If $N = \frac{1}{2} + \frac{1}{6} + \frac{1}{12} + \frac{1}{20} + \frac{1}{30} + \dots + \frac{1}{156}$, what is the value of N?

- A. $\frac{10}{13}$
- B. $\frac{12}{13}$
- C. $\frac{11}{13}$
- D. $\frac{9}{13}$
- E. None of these

- A. A
- B. B
- C. C
- D. D
- E. E

Q38. The HCF of two numbers is 12 and their difference is also 12. The numbers are

[+1]
[-0]

- A. 12, 84
- B. 84, 96
- C. 64, 76
- D. 100, 112
- E. None of these

Q39. x , y and z are the natural number. Which of the following statements is true?

[+1]
[-0]

- I. If x is divisible by y and y is divisible by z then x must be divisible by z .
- II. If x is a factor of y and z , then x must be a factor of $y + z$.
- III. If x is a factor of y and z , then x must be a factor of $\frac{y}{z}$.

- A. I, II and III
- B. I Only
- C. I and II
- D. II Only
- E. None of these

Q40. A report consists of 20 sheets of 55 lines and each such line consists of 65 characters. The report is reduced into sheets, each of 65 lines such that each line consists of 70 characters. What is the percentage reduction in the number of sheets?

[+1]
[-0]

- A. 10%
- B. 20%
- C. 30%
- D. 15%
- E. None of these

Q41. If a number x is 10% less than another number y and y is 10% more than 125, then x is equal to

[+1]
[-0]

- A. 150
- B. 143
- C. 140.55
- D. 123.75
- E. None of these

Q42. A owned an article worth ₹10,000. He sold it to B at a profit of 10% based on the worth of the article. B sold the article back to A at a loss of 10%. How much did A make in these transactions?

[+1]
[-0]

- A. ₹1000
- B. ₹1100
- C. ₹1200
- D. ₹900
- E. None of these

Q43. The rate of simple interest in two banks A and B are in the ratio 5:4. A Person wants to deposit his total savings in the two banks in such a way that he receives equal half yearly interest from both. He should deposit the savings in Bank A and B in the ratio.

[+1]
[-0]

- A. 5 : 2
- B. 2 : 5
- C. 4 : 5
- D. 5 : 4
- E. None of these

Q44. When ₹4572 is divided among A, B and C such that three time of A's share is equal to 4 times of B's share is equal to 6 times C's share. What is A's share?

[+1]
[-0]

- A. ₹2000
- B. ₹2032
- C. ₹2030
- D. ₹2040
- E. None of these

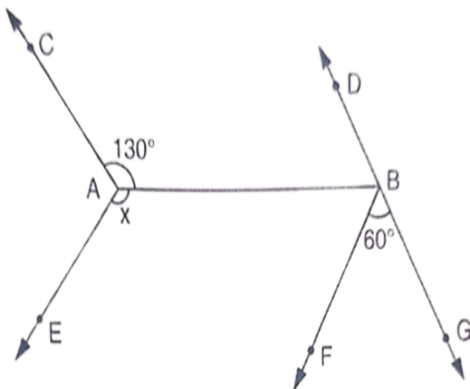
Q45. Three years ago the average age of A and B was 18 years with C joining them now, the average becomes 22 years. How old is C now?

[+1]
[-0]

- A. 20 years
- B. 22 years
- C. 24 years
- D. 21 years
- E. None of these

Q46. In the given figure, $AC \parallel BD$ and $AE \parallel BF$, what is the measure of x .

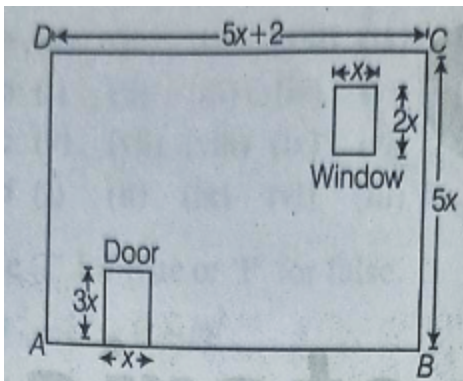
[+1]
[-0]



- A. 130°
- B. 110°
- C. 70°
- D. 50°
- E. None of these

Q47. The figure shows, the dimensions of a wall having a window and a door in a room. Area of wall is to be painted at the rate ₹5 per sq. units. The cost charged is ₹50. Then what is the perimeter of wall?

[+1]
[-0]



- A. 10 units
- B. 12 units
- C. 14 units
- D. 7 units
- E. None of these

Q48. Choose the correct option.

[+1]
[-0]

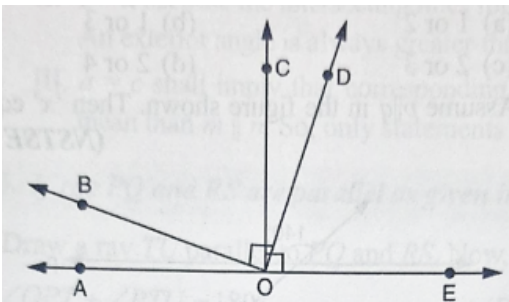
If $pqr = 1$, then

$\left(\frac{1}{1+p+q^{-1}} + \frac{1}{1+q+r^{-1}} + \frac{1}{1+r+p^{-1}}\right)$ is equal to

- A. 1
- B. pq
- C. qr
- D. $1/pq$
- E. None of these

Q49. In the given figure, $\angle COE$ and $\angle BOD$ are right angles. If the measure of $\angle BOC$ is four times the measure of $\angle COD$, what is measure of $\angle AOB$?

[+1]
[-0]



- A. 16°
- B. 17°
- C. 18°
- D. 19°
- E. None of these

Q50. Study the table given below and answer the question that follows. The number of students playing football from school D is what percent of the total number of students playing all the given games from the school. (Round off to 2 digits after decimals) (Scroll to view the complete question)

[+1]
[-0]

GAMES	SCHOOLS				
	A	B	C	D	E
Football	125	250	100	175	250
Basketball	175	200	195	245	225
Cricket	250	200	225	215	200
Tennis	240	210	200	130	165
Badminton	75	125	55	45	100

- A. 20.61
- B. 21.59
- C. 21.60
- D. 20.59
- E. None of these



CLASS / GRADE

Class 8

SUBJECT

IFMO

TOTAL QUESTIONS

50

MAX MARKS

50

ANSWER SHEET — 50 QUESTIONS

Q#	ANS	Q#	ANS	Q#	ANS	Q#	ANS	Q#	ANS
Q01	—	Q11	C	Q21	A	Q31	C	Q41	D
Q02	—	Q12	D	Q22	B	Q32	B	Q42	B
Q03	—	Q13	C	Q23	B	Q33	A	Q43	C
Q04	—	Q14	B	Q24	B	Q34	A	Q44	B
Q05	—	Q15	C	Q25	B	Q35	B	Q45	C
Q06	—	Q16	C	Q26	C	Q36	E	Q46	B
Q07	—	Q17	C	Q27	B	Q37	B	Q47	C
Q08	—	Q18	B	Q28	B	Q38	B	Q48	A
Q09	—	Q19	A	Q29	A	Q39	C	Q49	C
Q10	C	Q20	D	Q30	D	Q40	B	Q50	C

◆ ALL IOF OLYMPIAD PROGRAMMES ◆

International Foundation
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Secretaries of India
Commerce OlympiadInternational Foundation
Economics OlympiadInternational Foundation
General Knowledge &
Current Affairs OlympiadInternational Foundation
Science OlympiadInternational Foundation
Western Music OlympiadInternational Foundation
Sanskrit OlympiadInternational Foundation
Indian Music OlympiadInternational Foundation
Hindi OlympiadInternational Foundation
Reasoning & Aptitude
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Spell Talent Olympiad