SAMPLE PAPER

International Olympiad Foundation

EXCELLENCE IN EDUCATION
International Olympiad Foundation

14+	MCQ	0
OLYMPIADS	FORMAT	NEGATIVE MARKS

OLYMPIAD

Mathematics Olympiad

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

CLASS / GRADE	SUBJECT	DURATION	MAX MARKS
Class 6	IFMO	60 Min	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
- IFEO — International Foundation English Olympiad
- IFEnO — International Foundation Entrepreneurship Olympiad
- IFMO — International Foundation Mathematics Olympiad
- ICSI — 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. Choose the correct option which will complete the second pair in the same way as first pair. [+1] [-0]

Tile : Mosaic : : Knot : ?

A. Embroidery

B. Abacus

C. Macramé

D. Easel

E. None of these

Q2. Choose the correct option. [+1] [-0]

Bald is related to Blond in the same way as Barren is related to _____ .

A. Vegetation

B. Farm

C. Fertile

D. Inhibited

E. None of these

Q3. Select the lettered pair that has the same relationship as the original pair of words. [+1] [-0]

Embarrass : Humiliate

A. Enquire : Ask

B. Embezzle : Peculate

C. Gamble : Investment

D. Annoy : Exasperate

E. None of these

Q4. Choose the odd one out. [+1] [-0]

Faraday , Newton , Edison , Marconi , Beethoven

A. Faraday

B. Newton

C. Edison

D. Marconi

E. Beethoven

Q5. Choose the one which is different from others. [+1] [-0]

37 , 49 , 132 , 154 , 121

A. 37

B. 49

C. 132

D. 154

E. 121

Q6. Choose the correct option to continue the series. [+1] [-0]

2, 6, 12, 20, 30, 42, 56, _____

A. 60

B. 64

C. 70

D. 72

E. None of these

Q7. The missing letters are given in the proper sequence as one of the option. Choose the correct option. [+1] [-0]

a_bbc_aab_cca_bbcc

A. bacb

B. acba

C. abba

D. caba

E. None of these

Q8. If in a certain code, TEACHER is written as VGCEJGT, how would DULLARD be written in the same code? [+1] [-0]

A. FWMNCTF

B. FWNNBTE

C. FWNNCSF

D. FWNNCTF

E. None of these

Q9. Introducing a man to her husband, a woman said, 'his brother's father is only son of my grandfather.' How is the woman related to this man? [+1] [-0]

A. Mother

B. Aunt

C. Sister

D. Daughter

E. None of these

Q10. Mahesh goes 30m North then turns right and walks 40m then again turns right and walks 20m then again turns right and walks 40m. How many metres is he from his starting position. [+1] [-0]

A. 10m

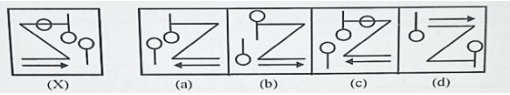
B. 15m

C. 20m

D. 30m

E. None of these

Q11. Choose the correct mirror image of the figure(X) when mirror is placed vertically on the right side of the image. **[+1] [-0]**



A. (a)

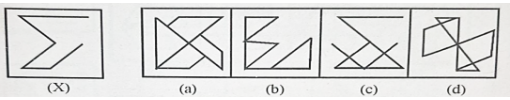
B. (b)

C. (c)

D. (d)

E. None of these

Q12. Fig(X) is embedded in any one of the four given options. Choose the option which contains the figure(X). **[+1] [-0]**



A. (a)

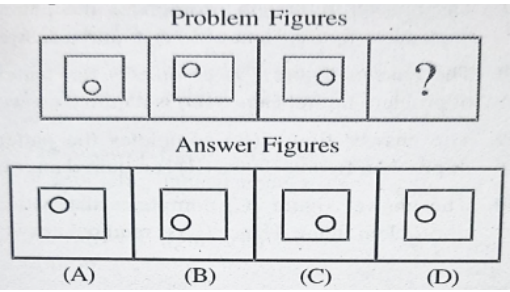
B. (b)

C. (c)

D. (d)

E. None of these

Q13. Choose the correct answer figure which will continue the given problem figures. **[+1] [-0]**



A. (A)

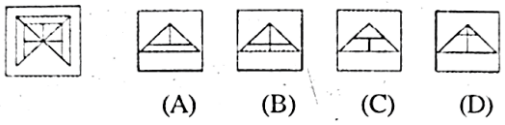
B. (B)

C. (C)

D. (D)

E. None of these

Q14. Choose the correct option to complete the matrix. [+1] [-0]



A. (A)

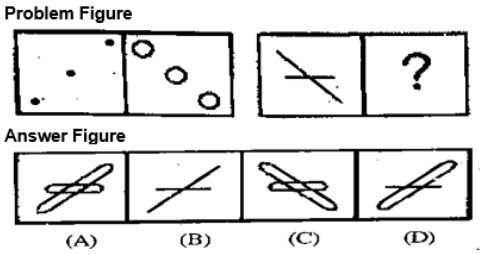
B. (B)

C. (C)

D. (D)

E. None of these

Q15. Choose the correct option which will complete the second pair in the same way as first pair. [+1] [-0]



A. (A)

B. (B)

C. (C)

D. (D)

E. None of these

Q16. What is the sum of first five prime numbers which are greater than 100? [+1] [-0]

A. 531

B. 528

C. 529

D. 533

E. None of these

Q17. What is the unit digit in $(7)^{21}$? [+1] [-0]

A. 9

B. 3

C. 7

D. 1

E. None of these

Q18. What is the least value of * for which (7 * 5426) is divisible by 9 ? [+1] [-0]

A. 2

B. 3

C. 1

D. 4

E. None of these

Q19. If HCF and LCM of two numbers are 131 and 8253. One of the number is 917. What is the other? [+1] [-0]

A. 1149

B. 1159

C. 1169

D. 1179

E. None of these

Q20. What is the least number of 5-digits that is exactly divisible by 16, 18, 24 and 30? [+1] [-0]

A. 10020

B. 10040

C. 10080

D. 10200

E. None of these

Q21. January 1, 2007 was Monday. What day of the week lies on Jan 1, 2008? [+1] [-0]

A. Monday

B. Tuesday

C. Wednesday

D. Sunday

E. None of these

Q22. The following table lists the daily fluctuations of a Dow Jones Industrial Average under US stock market. What is the increase / decrease of points on comparing the days September 25 and October1 ? (Scroll down to view complete question) [+1] [-0]

September 22	-107
September 23	-117
September 24	115
September 25	-265
September 26	168
September 29	-42
September 30	-29
October 1	-238
October 2	-3
October 3 (12:45 pm EST)	200
Average	132

A. Increase of 27 points

B. Decrease of 27 points

C. Increase of 30 points

D. Decrease of 30 points

E. None of these

Q23. The following table lists the daily fluctuations of a Dow Jones Industrial Average under US stock market. What is the difference between the highest and lowest points achieved in these given days? (Scroll down to view complete question) [+1] [-0]

September 22	-107
September 23	-117
September 24	115
September 25	-265
September 26	168
September 29	-42
September 30	-29
October 1	-238
October 2	-3
October 3 (12:45 pm EST)	200
Average	132

A. 65

B. -65

C. -465

D. 465

E. None of these

Q24. Choose the correct answer. [+1] [-0]

In an activity class, students were asked to make a circular rangoli . Sonia, Mehak, Chetna and Kanika made rangolis having different diameters as $\frac{17}{20}$ inches, $\frac{3}{4}$ inches , $\frac{5}{6}$ inches and $\frac{7}{10}$ inches respectively. Who among them made the smallest one?

A. Sonia B. Mehak
C. Chetna D. Kanika E. None of these

A. Sonia

B. Mehak

C. Chetna

D. Kanika

E. None of these

Q25. Choose the correct answer [+1] [-0]

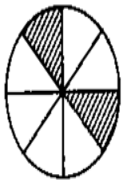
For a new year party, a caterer provided three 1kg of desserts. At the end of the party, there were $\frac{3}{5}$ kg of chocolate pudding, $\frac{4}{7}$ kg of caramel pudding and $\frac{5}{8}$ kg of fruit pudding left. What fraction of the original three kg was left after the party?

A. $1\frac{123}{280}$ B. $1\frac{223}{280}$
C. $1\frac{283}{270}$ D. $1\frac{393}{290}$ E. None of these

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

Q26. Which of the figure has a shaded part equal to 0.25? [+1] [-0]

a 

b 

c 

d None of these

A. a
B. b
C. c
D. d
E. All of these

Q27. Which ratio best expresses the statement, 10hr is what percent of a day? [+1] [-0]

A. $\frac{10}{100} = \frac{x}{24}$ B. $\frac{10}{24} = \frac{x}{100}$
C. $\frac{10}{24} = \frac{100}{x}$ D. All of these E. None of these

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

Q28. If a : b = 2 : 3 and b : c = 5 : 7, then a : b : c is equal to [+1] [-0]

A. 6 : 10 : 14

B. 2 : 3 : 7

C. 10 : 15 : 21

D. 5 : 10 : 8

E. None of these

Q29. Which of the following can be used to compute $(34 \times 4\frac{1}{2})$ [+1] [-0]

A. $(30 \times 4) + (4 \times 4\frac{1}{2})$ B. $(34 \times 40) + (34 \times \frac{1}{2})$

C. $(30 \times 4\frac{1}{2})) + (4 \times 4)$ D. $(34 \times \frac{1}{2})) + (30 \times 4) + 4 \times 4$

A. A

B. B

C. C

D. D

E. None of these

Q30. Choose the correct option. [+1] [-0]

How many $\frac{1}{8}$ s are there in $37\frac{1}{2}$?

A. 300

B. 400

C. 500

D. 250

E. None of these

Q31. One fifth of a number exceeds one-seventh of the same number by 10. What is the number? [+1] [-0]

A. 125

B. 150

C. 175

D. 200

E. None of these

Q32. Rajeev's age after 15 years will be 5 times his age 5years back. What is the present age of Rajeev? [+1] [-0]

A. 12 years

B. 15 years

C. 10 years

D. 14 years

E. None of these

Q33. Choose the correct option. [+1] [-0]

In Δ ABC, 4∠A = 6∠B = 3∠C. What is the measure of largest angle?

A. 80°

B. 60°

C. 40°

D. 50°

E. None of these

Q34. When x is added to both terms of the ratio 2:5, it becomes 5:6, then the value of x is [+1] [-0]

A. 10

B. 12

C. 13

D. 11

E. None of these

Q35. In a Chemistry Lab, acid and base solutions are mixed in the ratio 3:5. A bottle contains 304ml of mixture. How much acid and base were needed to make this amount of the mixture? [+1] [-0]

A. 114ml, 190ml

B. 131ml, 170ml

C. 124ml, 160ml

D. 204ml, 100ml

E. None of these

Q36. When 0.36 is written in simplest fractional form, the sum of the Numerator and the Denominator is [+1] [-0]

A. 15

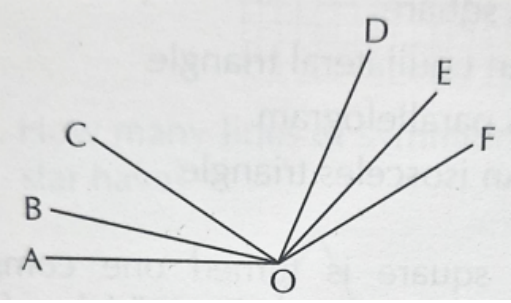
B. 34

C. 68

D. 135

E. None of these

Q37. How many obtuse angles are there in the diagram? [+1] [-0]



A. 7

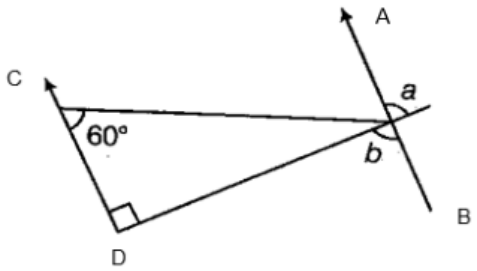
B. 8

C. 9

D. 10

E. None of these

Q38. What is the value of ∠a + ∠b in the given figure when AB||CD? [+1] [-0]



A. 75°

B. 90°

C. 150°

D. 180°

E. None of these

Q39. Choose the correct option. [+1] [-0]

Mohini finds the average of her three most recent badminton scores by using the expression $\left(\frac{a+b+c}{3} \times 100\right)$, where a, b and c are the three scores. Which of the following would also determine the average of her scores?

A. $\left(\frac{a}{3}+\frac{b}{3}+\frac{c}{3}\right) \times 100$ B. $\frac{(a+b+c) \times 3}{100}$

C. $\frac{a+b+c}{3/100}$ D. $\frac{a+b+c}{3}+100$ E. None of these

A. A

B. B

C. C

D. D

E. E

Q40. Consider the following pattern. [+1] [-0]

$$1 + \frac{1}{2} = \frac{1+2}{2} = \frac{3}{2}$$

$$\frac{1}{2} + \frac{1}{3} = \frac{2+3}{2 \times 3} = \frac{5}{6}$$

$$\frac{1}{3} + \frac{1}{4} = \frac{3+4}{3 \times 4} = \frac{7}{12}$$

$$\frac{1}{p} + \frac{1}{q} = \frac{p+q}{p \times q} = \frac{23}{r}$$

What are the values of p, q and r respectively?

A. 12, 13 and 156

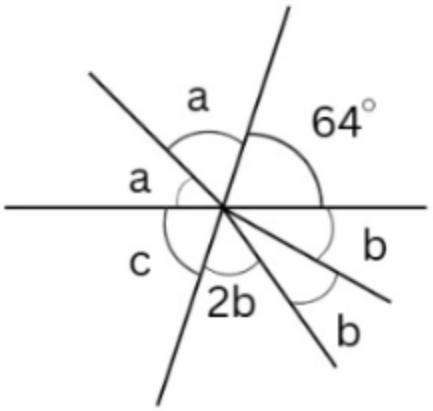
B. 10, 13 and 130

C. 11, 12 and 132

D. 9, 14 and 126

E. None of these

Q41. From the given figure, find the values of ∠a, ∠b and ∠c respectively. [+1] [-0]



A. 46°, 54° and 80°

B. 29°, 58° and 64°

C. 80°, 28° and 72°

D. 58°, 29° and 64°

E. None of these

Q42. Choose the correct option. [+1] [-0]

If $a \otimes b = (a+b) \div 2$, then $15 \otimes (4 \otimes 6)$ is equal to

A. 5

B. 10

C. 15

D. 20

E. None of these

Q43. A recipe serves four people and calls for $1\frac{1}{2}$ spoons of cheese. If you want to serve six people, then how much cheese do you need? [+1] [-0]

A. 2 spoons

B. $2\frac{1}{4}$ spoons

C. $2\frac{1}{3}$ spoons

D. $2\frac{1}{2}$ spoons

E. None of these

Q44. If x and y are negative, then which of the following statements is/are always true? [+1] [-0]

I. x+y is positive
II. xy is positive
III. x-y is positive

A. I only

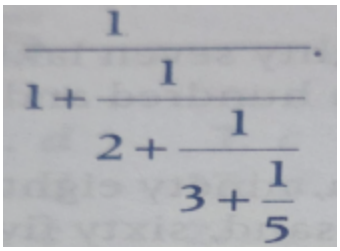
B. II only

C. III only

D. I and III only

E. None of these

Q45. Simplify and choose the correct option. [+1] [-0]



A. $\frac{31}{25}$

B. $\frac{37}{53}$

C. $\frac{41}{29}$

D. $\frac{29}{41}$

E. None of these

Q46. [+1] [-0]

There were 800 people in a stadium. $\frac{7}{16}$ of them were men, $\frac{5}{16}$ of them were women and the rest were children. If there were 75 girls, then find ratio of the number of boys to the number of girls.

A. 4:16

B. 3:5

C. 7:16

D. 5:3

E. None of these

Q47. Ruchika bought some pens and exercise books for ₹ 107.00. There were 5 less pens than exercise books and each pen cost ₹25.00 and each exercise book cost ₹ 4.00, then what is the number of exercise books did she buy? [+1] [-0]

A. 9

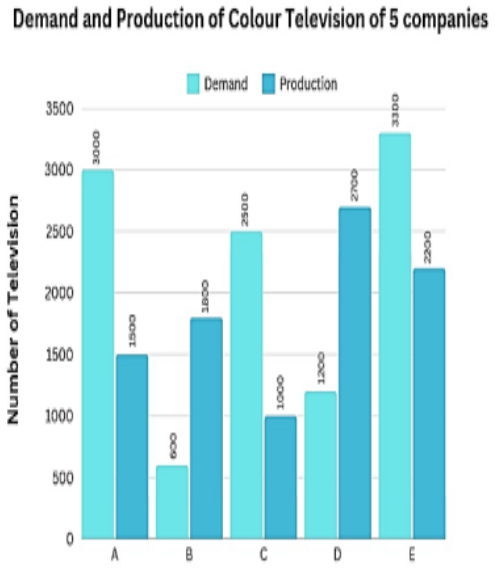
B. 8

C. 10

D. 12

E. None of these

Q48. The bar graph, given here shows the demand and production of colour televisions of five companies for Diwali season. Study the graph and answer the question. The ratio of the demand and production of colour televisions of company E is (Scroll down to view complete question) [+1] [-0]



A. 2 : 3

B. 3 : 2

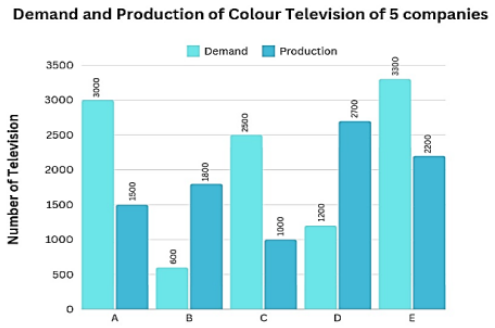
C. 2 : 1

D. 1 : 2

E. None of these

Q49. The bar graph given here shows the demand and production of colour television of five companies for Diwali seasons. Study the graph and answer the question. (Scroll down to view complete question) [+1] [-0]

The production of colour television of company D is how many times that of company A?



A. 1.9

B. 1.8

C. 1.5

D. 2.3

E. None of these

Q50. The sum of two number is 432. $^{5}/_{7}$ of the first number is $\frac{1}{4}$ of the second number. What is the product of two numbers. [+1] [-0]

A. 38540

B. 35840

C. 25840

D. 12450

E. None of these

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ANSWER KEY

Mathematics Olympiad

www.iof.education

CLASS / GRADE	SUBJECT	TOTAL QUESTIONS	MAX MARKS
Class 6	IFMO	50	50

ANSWER SHEET — 50 QUESTIONS

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