

Olympiad Foundation

SAMPLE PAPER CLASS 8th



OLYMPIAD FOUNDATION



Division of Marks

S.No.	Topic/Section	No. of Question	Marks
1	Mathematics	25	25
2	HOTS (High Order thinking Skill)	10	10
3	Reasoning & Mental Ability	15	15
	Total	50	50

INSTRUCTIONS :

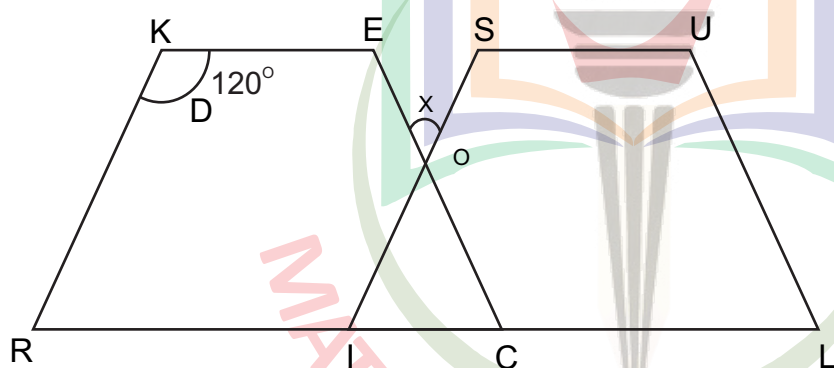
1. Use Blue/Black ballpoint pen only to darken the appropriate circle.
2. Mark should be dark and should completely fill the circle.
3. Dark only one circle for each entry.
4. Dark the circle in the space provided only.
5. Rough work must not be done on the answer sheet and do not use white- fluid or any other rubbing material on Answer sheet.
6. Each question carries one mark.

Select the correct answer and darken your answer in the table :

MATHEMATICS

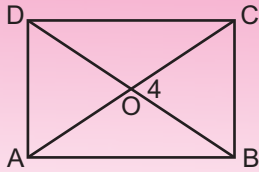
1. The value of m for given expression $3^m / 3^{-3} 3^4$ is -
- (A) 6 (B) 5
(C) 1 (D) 0
2. $3\sqrt{4}$ is equivalent to -
- (A) $\sqrt{2}$ (B) 4
(C) 6 (D) 5
3. Evaluate and mark the correct option :- $[(242 + 72) 1/2]^3$
- (A) 625 (B) 25
(C) 1025 (D) None of these
4. How many sides in hexagon ?
- (A) 5 (B) 6
(C) 8 (D) 9
5. Which value of Z for equation $Z = 12 = 3Z$
- (A) 4 (B) 6
(C) 10 (D) 1
6. Simplify : $1 - \frac{1}{2} + 1$
- (A) $2/5$ (B) $2/3$
(C) $5/3$ (D) $5/2$
7. Evaluate $(9/5)^2 \times (3/5)^{-2} \times (5/3)^0$ is -
- (A) 10 (B) 9
(C) $-2/3$ (D) $10/2$

8. The value of the expression $\frac{4Z^2 - 9Y^2}{2Z + 3Y}$ is -
 (A) 1 (B) 0
 (C) $4z + 9y$ (D) $2z - 3y$
9. If $Z = 6$, then the value of $20z\sqrt{z^3 - 2z^2}$ is -
 (A) 1000 (B) 1040
 (C) 1400 (D) 1440
10. If $\frac{25 \times a^2}{5^{-3} \times 10 \times a^{-8}} = \pi \times A4$, then the value of x is -
 (A) 53 (B) 54
 (C) $\frac{1}{2} \times 54$ (D) 52
11. In the given fig, if Risk and Clue are Parallelograms. Then, the value of x is.



- (A) 50° (B) 60°
 (C) 80° (D) 70°
12. The Polynomial $P(\pi) = \pi^3 - 4\pi - 15$, When divide by the binomial $(\pi - 3)$, we get remainder as -
 (A) 1 (B) 2
 (C) 0 (D) -1
13. Which of the following is not a factor of expression $(2a + b) - (3a - b)^2$?
 (A) 1 (B) $5a$
 (C) $a + 2b$ (D) $-a + 2b$

14. ABCD is Parallelogram, give in the fig. It is also given that, $OB = 4$ and AC is 5 more than BD. the value of OA is :



- (A) 13 (B) 6.5
(C) 7 (D) 9
15. The factor of $\pi^8 - 625$ is -
(A) $\pi^4 + 5$ (B) $\pi^2 + 5$ and $\pi^4 + 25$
(C) $\pi^3 + 50$ (D) None of these
16. If $25\text{cm}^2 Q = \sqrt{3}$, then the value of Q is :
(A) $\frac{\pi}{3}$ (B) $\frac{\pi}{4}$
(C) $\frac{\pi}{6}$ (D) $\frac{\pi}{2}$
17. If $a/b = 4/3$, find the value of $\frac{a^2 + b^2}{a^2 - b^2}$
(A) 25/7 (B) 26/7
(C) 25/4 (D) 4
18. The sum of money put out at compound interest amounts in two years to 578.40 Rs and in three years to 614.55 Rs, Then the rate of interest is -
(A) 6% (B) $6\frac{1}{4}\%$
(C) $6\frac{1}{2}\%$ (D) $6\frac{3}{4}\%$
19. If 4 women or 3 men earn 960 Rs in one day, Then earning of 12 woman and 7 men in 5 days will be -
(A) 2560 (B) 25600 (C) 9600 (D) 2500
20. The difference between a number and its reciprocal is 5, Then the difference between their cubes will be -
(A) 140 (B) 110 (C) 125 (D) 90

21. A number π is such that $5^{2\pi+1} / 25 = 125$, then the value of π is -

- (A) 1 (B) 2
(c) 3 (d) 0

22. If A, B, C and D are four quantities such that $A : B = 3 : 4$, $B : C = 8 : 9$, $C : D = 15 : 16$, Then $A : D = ?$

- (A) 5 : 8 (B) 8 : 5
(C) 4 : 5 (D) 5 : 4

23. After solving the expression $(3^{-4} + 4^{-3} + 5^{-1} + 6^{-2} + 7^{-1})$, we will get -

- (A) 22 (B) -1
(C) 1 (D) 0

24. If the value of $(7 + 3x)$ is equal to $(7-3x)$, then the value of $(7x^2+4x+9)$ is equal to -

- (A) 11 (B) 9
(C) 20 (D) 3

25. PQRS is a trapezium in which $SP \parallel RQ$, then the measure of P is :

- (A) 30° (B) 40°
(C) 50° (D) 90°

26. 4 % income of P is equal to 12% of income of Q and 8% of income of Q is equal to 16% of income of R. If R's income is 2000 Rs, then the total income of P, Q, R is -

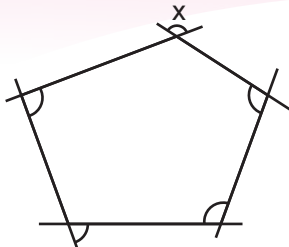
- (A) 6000 (B) 14000
(C) 18000 (D) 20,000

27. If $XYZ = 8$ and $X + Y + Z = 8$, then $1/XY + 1/YZ + 1/XZ$ is -

- (A) 0 (B) 1
(C) 8 (D) 64

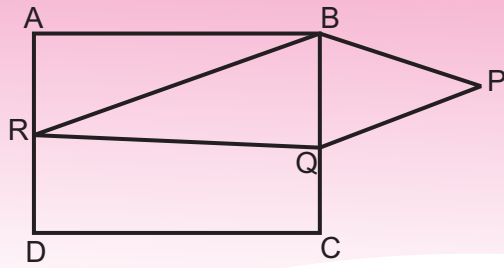
28. The third proportional to $(a^2 - b^2)$ and $(a - b)$ is - $\frac{A - b}{A - b}$
- (A) $A + B$ (B) $B + a^2$
- (C) $C + a$ (D) $A^2 - B^2$

29. Consider the given below figure ?



- (A) 60 (B) 90
- (C) 120 (D) 150
30. 5 men or 15 women can complete a job in 30 days. In how many days can 3 men and 5 women complete it ?
- (A) 20 days (B) 28 days
- (C) 29 days (D) 21 days
31. Find the missing digit y in $1040y$, so that the number is a perfect square.
- (A) 1 (B) $\sqrt{3}$
- (C) 4 (D) 7
32. The value of expression $\frac{2x^3 - 12x^2 + 16x}{(x-2)(x-4)}$
- (A) 2 (B) $x/2$
- (C) $2x$ (D) $2x^2$
33. If a sum becomes A in 1 year at the rate of 6% compounded annually, then find out in how many years it will become $1.06A$ of A at the same rate ?
- (A) 2 Year (B) 3 Year
- (C) 1.5 Year (D) 3.5 Year

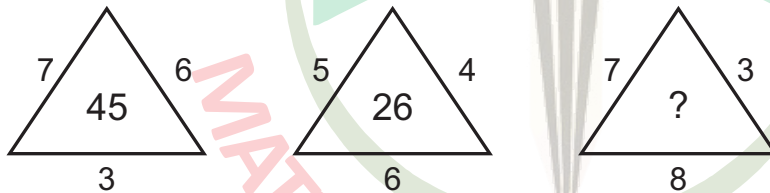
34. A square A B C D of side 8 cm is shown below with $\triangle P Q R$ having all sides equal to 6 cm. Find the side :



- (A) 6 cm (B) 8 cm
(C) 10 cm (D) 12 cm
35. Find the factors of $x^2 - y^2 + x + y$.
- (A) $(x+y)$ and $(x-y-1)$ (B) $(x+y)$ and $(x-y+1)$
(C) $(x-y)$ and $(x+y+1)$ (D) $(x-y)$ and $(x-y-1)$

REASONING AND MENTAL ABILITY

36. Which number will replace the question mark ?



- (A) 26 (B) 27
(C) 28 (D) 29
37. Find the missing term :
0, 6, 24, 60, 120, 210, ?
- (A) 336 (B) 302
(C) 290 (D) 242
38. Identify the odd out :
- (A) 343 (B) 121 (C) 125 (D) 729

39. 21:3 :: 574 : ?

(A) 23

(B) 113

(C) 91

(D) 82

40. If OJAMYTIR is the code for MOJORITY, which word is coded as SERPEVRE ?

(A) PRESERVE

(B) SERVER

(C) PERVERS

(D) VERSER

41. P is Q's brother, X is P's mother, Y is X's father, Z is Q's son. How is Z related to P ?

(A) Cousin

(B) Grandfather

(C) Nephew

(D) Uncle

42. Which of the following figure represent the relation between gases, liquids and solids?



43. Which of the following words will come in second place, If all of them are arranged alphabetically as in a dictionary ?

(A) Crude

(B) Cruise

(C) Crumb

(D) Crupper

44. Arrange meaningful sentence :

(1) Nation, (2) Village, (3) City, (4) District, (5) State

(A) 1 2 3 4 5

(B) 5 4 3 2 1

(C) 2 3 4 5 1

(D) 2 1 3 4 5

45. Find out the odd one :-

Sun : Star :: Gold : ?

(A) Stone

(B) Metal

(C) Cheap gold

(D) Non - metal

46. Which one of the four interchanges in signs and numbers would make the equation $3 - 2 / 6 = 0$ true ?

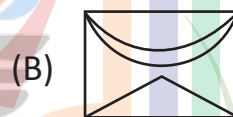
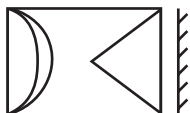
(A) 2 and 3, / and -

(B) 4 and 5

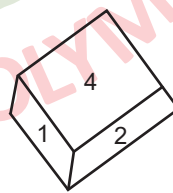
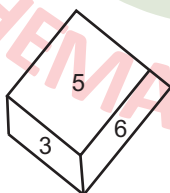
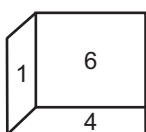
(C) 3 and 6, /

(D) 6 and 7

47. Choose the correct mirror image :-



48. Three position of a dice are given based on them find out which number is opposite the number 2 is the given dice :-



(A) 6

(B) 5

(C) 3

(D) 1

49. Choose the missing letter :-

AZ, CX, FU, ?

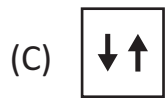
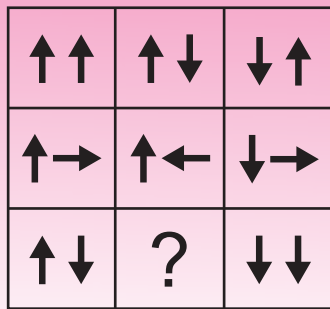
(A) IR

(B) IV

(C) JQ

(D) KP

50. Complete the figure to find the correct answer :_



ANSWER KEY

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