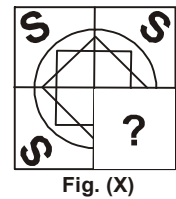
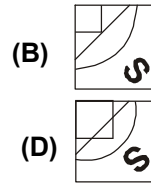
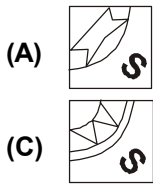




SAMPLE PAPER

SECTION I : LOGICAL REASONING

1. Select a figure from the four options, which when placed in the blank space of figure (X) would complete the pattern.



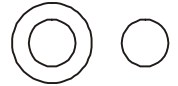
2. Which one of the following sets is best represented in the adjoining diagram?

(A) Animals, Insects, Cockroaches

(B) Country, States, Districts

(C) Sun, Planets, Earth

(D) Classroom, Blackboard, School



3. In a certain code TELEPHONE is written as ENOHPELET. How is ALIGATOR written in that code ?

(A) ROTAGILA

(B) ROTAGAIL

(C) ROTAGILE

(D) OTAGILAR

4. If '-' means 'x', 'x' means '+', '+' means '+' and '+-' means '-', then $8 \times 5 - 8 + 40 \div 2 = ?$

(A) 7

(B) 16

(C) 44

(D) 4

5. Anusha remembers that her brother Kabir's birthday falls after 21st May but before 30th May, while Pia remembers that Kabir's birthday falls before 25th May but after 20th May. On what date Kabir's birthday falls ?

(A) 20th May

(B) 21st May

(C) 22nd May

(D) 27th May

6. In the series 6 4 1 2 2 8 7 4 2 1 5 3 8 6 2 1 7 1 4 1 3 2 8, how many pairs of successive numbers have a difference of 1 each ?

(A) Four

(B) Five

(C) Six

(D) Seven

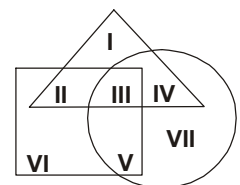
7. The triangle, square and circle shown here represents urban, hard-working and educated people respectively. Which one of the areas represented by the urban educated people those who are not hard-working ?

(A) IV

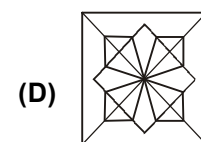
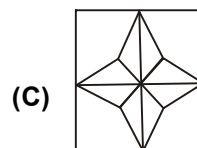
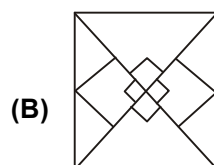
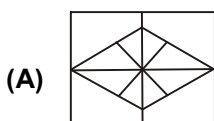
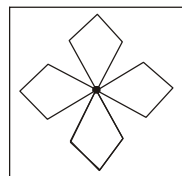
(B) II

(C) V

(D) VII



8. Find amongst the four options the figure which most nearly contains the Fig. (X).



9. Letters of the word given below have been jumbled up. The letter has been numbered and followed by four options. Choose the option which gives the correct order of the letters to form a meaningful word.

I N L A S G
1 2 3 4 5 6

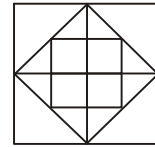
- (A) 2, 4, 3, 6, 1, 5 (B) 3, 4, 6, 1, 2, 5 (C) 5, 1, 6, 2, 4, 3 (D) 6, 1, 3, 5, 4, 2

10. Find the odd one out.

- (A) UTSR (B) IHGE (C) NMLK (D) ZYXW

11. How many triangles are there in the given figure?

- (A) 20 (B) 26
(C) 23 (D) 24



12. Which number would replace the question mark in the given series ?

3, 15, ?, 63, 99, 143

- (A) 27 (B) 35 (C) 45 (D) 56

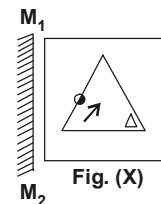
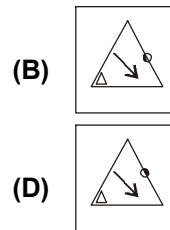
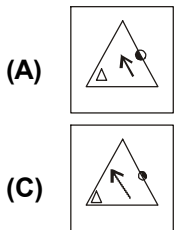
13. Shreya saw the restaurant sign shown below.

Manager's Special		
Choose 1 main dish, 1 side dish, and 1 snack for ₹ 880.		
Main Dish	Side Dish	Snack
Meat loaf	Corn	Dinner roll
Chicken-fried steak	Beans	Biscuit
Manchurian	Mashed potatoes	Poha
	Macaroni & Cheese	

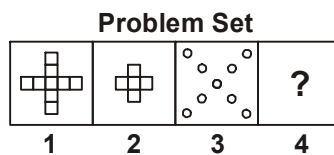
How many different combinations are possible if Shreya buys the Manager's special ?

- (A) 8 (B) 16 (C) 24 (D) 36

14. Find the mirror image of the Fig. (X) if mirror is placed along M_1M_2 .



15. The given question consists of four figures 1, 2, 3 and 4 called the Problem Set. There is a definite relationship between figures 1 and 2. Establish a similar relationship between figures 3 and 4 by selecting a suitable figure from the options that would replace the question mark (?) in fig. (4).



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

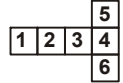
16. Pointing towards a person, a man said to a woman, " His mother is the only daughter of your father". How is the woman related to that person ?

- (A) Daughter (B) Sister (C) Mother (D) Sister-in-law

17. If 'eraser' is 'box', 'box' is 'pencil', 'pencil' is 'sharpener', and 'sharpener' is 'bag', what will a child write with ?

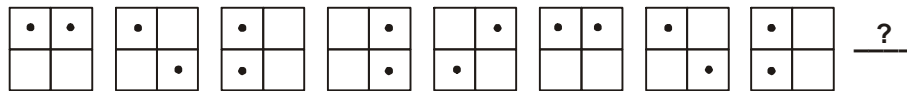
- (A) Eraser (B) Box (C) Pencil (D) Sharpener

18. If you cut out and fold the pattern shown on the right to make a cube, which letter will be on the face of the cube opposite the face labelled 2 ?



- (A) 4 (B) 1 (C) 5 (D) 6

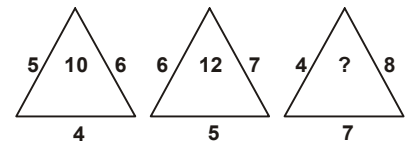
19. Which of the following figures comes next in the given pattern ?



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

20. Find the missing character from among the given options.

- (A) 4 (B) 6
(C) 12 (D) 3



SECTION II : MATHEMATICAL REASONING

21. Father's age is equal to the sum of the ages of his five children. After 15 years, his age will be only half of the sum of the children's ages. How old is the father ?

- (A) 42 yrs (B) 43 yrs (C) 44 yrs (D) 45 yrs

22. What is the value of $x^3 + y^3 + z^3 - 3xyz$, when $x = 2$, $y = 1$ and $z = -3$?

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

23. The value of $\frac{\sqrt[6]{0.001} \sqrt[6]{x^{1296}}}{\sqrt{10}}$ is ____.

- (A) $(10x)$ (B) $\frac{x^6}{10^3}$ (C) $\frac{x^{36}}{10}$ (D) $\left(\frac{10x}{x^5}\right)^{1/6}$

24. What is the value of x in the given equation ?

$$(3x - 8)(3x + 2) - (4x - 11)(2x + 1) = (x - 3)(x + 7)$$

- (A) 2 (B) 4 (C) 3 (D) 5

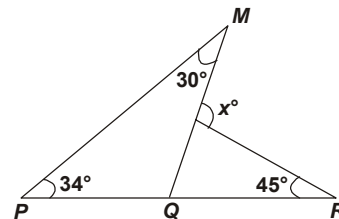
25. Last year Mr. Nitin earned ₹ 19600 from the corn he grew on his farm. This year he expects a 7% increase in the income from corn. How much does he expect to earn from corn this year ?

- (A) ₹ 13720 (B) ₹ 30972 (C) ₹ 10972 (D) ₹ 20972

26. The value of $\sqrt{10 + \sqrt{25 + \sqrt{108 + \sqrt{154 + \sqrt{225}}}}}$ is _____
- (A) 4 (B) 6 (C) 8 (D) 10

27. What is the measure of x in the given figure ?

- (A) 112°
 (B) 110°
 (C) 109°
 (D) 107°



28. Write $(3^{-7} \div 3^{-10}) \times 3^{-5}$ in simplest form.

- (A) $\left(\frac{1}{3}\right)$ (B) $(3)^2$ (C) 3^{-2} (D) 3^4

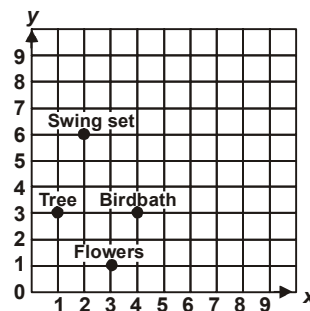
29. A 2 cm long grasshopper can jump 160 cm. If a 6 metre tall animal had the same height and jump ratio, how far could he jump ?

- (A) 48 m (B) 480 m (C) 180 m (D) 8000 m

30. John made the given grid to show some locations in his garden.

Which ordered pair best represents the point on the grid labelled "Birdbath" ?

- (A) (2, 6)
 (B) (3, 4)
 (C) (1, 3)
 (D) (4, 3)



31. Students at a local college were asked how many hours they slept last night. The given chart shows the data. The probability of the students who slept for 6 hours is _____.

Hours of Sleep	No. of Students
6	14
7	26
8	28
9	15
More than 10	6

- (A) $\frac{15}{89}$ (B) $\frac{6}{89}$ (C) $\frac{14}{28}$ (D) $\frac{14}{89}$

32. What is the average of the sixth even number, fifth and eighth odd number after 200?

- (A) 210 (B) 211 (C) 212 (D) 213

33. Addition of rational numbers does not satisfy which of the following property ?

- (A) Commutative (B) Associative (C) Closure (D) None of these

34. How many cubic metres of earth must be dug out to sink a well 22.5 m deep and of diameter 7 m.

- (A) 866.25 m^3 (B) 495 m^3 (C) 77.82 m^3 (D) 748 m^3

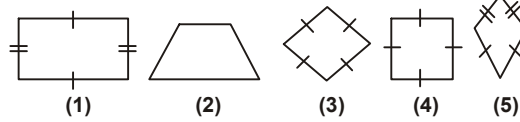
35. When a number is divided by 125, the remainder is 82, when the same number is divided by 25, the remainder will be ____.

- (A) 8 (B) 9 (C) 6 (D) 7

36. Between which two consecutive whole numbers $\sqrt{2,000}$ lies?

- (A) 41 and 42 (B) 44 and 45 (C) 43 and 44 (D) 45 and 46

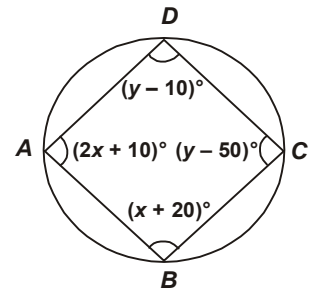
37. Which two quadrilaterals have exactly four lines of symmetry ?



- (A) (1) and (5) (B) (3) and (2) (C) (3) and (4) (D) (2) and (5)

38. In the given figure, if $\angle A = (2x + 10)^\circ$, $\angle B = (x + 20)^\circ$, $\angle C = (y - 50)^\circ$ and $\angle D = (y - 10)^\circ$. The values of x and y are ____.

- (A) $x = 30^\circ$, $y = 20^\circ$
 (B) $x = 60^\circ$, $y = 40^\circ$
 (C) $x = 50^\circ$, $y = 120^\circ$
 (D) $x = 70^\circ$, $y = 90^\circ$



39. The compound interest on a certain sum for 2 years at 10% per annum is ₹ 525. The simple interest on the same sum for double the time at half the rate percent per annum is ____.

- (A) ₹ 400 (B) ₹ 500 (C) ₹ 600 (D) ₹ 800

40. Factorise :

$$3 - 12(a - b)^2$$

- (A) $3(1 + 2a + 2b)(1 - 2a + 2b)$ (B) $3(1 - 2a - 2b)(1 + 2a - 2b)$
 (C) $3(1 + 2a - 2b)(1 - 2a + 2b)$ (D) $3(1 - 2a - 2b)(1 - 2a - 2b)$

SECTION III : EVERYDAY MATHEMATICS

41. Trader marks his goods 40% above the cost price and gives a discount of 20% on the marked price. Find his gain percent.

- (A) 10% (B) 12% (C) 14% (D) 15%

42. A man sold 10 eggs for ₹ 5 and gained 20%. How many eggs did he buy for ₹ 5 ?

- (A) 12 (B) $\frac{25}{12}$ (C) 25 (D) None of these

43. 729 ml of a mixture contains milk and water in the ratio 7 : 2. How much more water is to be added to get a new mixture containing milk and water in the ratio 7 : 3 ?

- (A) 60 ml (B) 71 ml (C) 52 ml (D) 81 ml

44. Mrs. Nysa needs to take a taxi to the doctor's clinic. The taxi ride costs ₹ 15 for the first km and ₹ 8 for each additional km and part thereof. How much does Mrs. Nysa pay for a 3.8 km taxi ride?

- (A) ₹ 35 (B) ₹ 28 (C) ₹ 32 (D) ₹ 39

45. Anusha and three of her friends worked together to make a quilt. The given table lists the fractional part of the quilt that each of the girls made. Which list shows the girls in order from the one who sewed the least to the one who sewed the most ?

Girl	Parts Sewn
Anusha	$\frac{5}{9}$
Kirti	$\frac{1}{5}$
Sara	$\frac{2}{5}$
Rehana	$\frac{11}{13}$

- (A) Rehana, Anusha, Sara, Kirti
- (B) Sara, Anusha, Kirti, Rehana
- (C) Rehana, Kirti, Anusha, Sara
- (D) Kirti, Sara, Anusha, Rehana

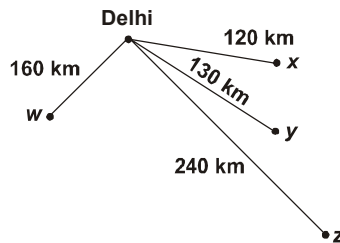
46. Two flower beds in a park are similar rectangles of same width. The longest side of the large flower bed is 48 cm long, and the longest side of the small flower bed is 16 cm. If L is the area of the large flower bed and S is the area of the small flower bed, which equation is true?

- (A) $S = L - 16$
- (B) $S = L + 16$
- (C) $S = \frac{1}{9}L$
- (D) $S = \frac{1}{3}L$

47. The Wright brothers had their first successful flight near Kitty Hawk, North Carolina. Mr. Mohit finds it easy to remember the year in which the flight occurred because the number is the square root of his telephone number 3629025. In which year did the flight occur?

- (A) 1925
- (B) 1935
- (C) 1945
- (D) 1905

48. Dhruv plans on leaving his home in Delhi at 8:00 A.M. He will drive at an average speed of 40 km per hour and plans to arrive at his destination just before 12:00 P.M. If he makes no stops along the way, which of the four places is his destination?



- (A) w
- (B) x
- (C) y
- (D) z

49. Kareena is on the fifth floor of a building. Her car is in the parking garage which is three levels below the ground floor. She gets in the elevator and travels from the fifth floor above ground level to the third floor below ground level. How many floors did she travel ?

- (A) 7
- (B) 6
- (C) 4
- (D) 8

50. Jiah is building birdhouses. It takes her $5\frac{1}{2}$ hours to build 4 birdhouses. Which of the following is an equivalent rate ?

- (A) 14 hours to build 18 birdhouses
- (B) 28 hours to build 35 birdhouses
- (C) 11 hours to build 8 birdhouses
- (D) 22 hours to build 28 birdhouses

SPACE FOR ROUGH WORK

ANSWER KEYS

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