



**INDIAN SCHOOL AL MAABELA**  
(ISO 9001:2015 CERTIFIED INSTITUTION)  
YEARLY EXAMINATION - 2019-'20  
**MATHEMATICS (SAMPLE QUESTION PAPER)**

ISAM/FR/MDL/QP/02

Class: VIII

Max. Marks: 80

Time: 3 Hours

**General Instructions:**

- All questions are compulsory
- The question paper consists of 40 questions divided into four sections A, B, C and D. Section A comprises of 20 questions of 1 mark each, Section B comprises of 6 questions of 2 marks each, Section C comprises of 8 questions of 3 marks each and Section D comprises of 6 questions of 4 marks each.
- Internal choice has been provided in all Sections.
- Use of calculators is not permitted. Use of whiteners are not allowed.
- Only the answers are to be written in the answer sheet with correct question number.

**SECTION A**

**Q.1-Q.10 are multiple choice questions. Select the most appropriate answer from the given options.**

1. If each interior angles of a regular polygon is  $144^\circ$ , then number of sides of polygon is 1  
a) 8                      b) 8                      c) 10                      d) 11
2. If the area of a rectangle is  $24(x^2yz + xy^2z + xyz^2)$  and its length is  $8xyz$ , then its breadth is 1  
a)  $3(x + y + z)$       b)  $3xyz$                       c)  $3(x + y - z)$                       d)  $-3xyz$
3. The abscissa of the point  $(-2, 7)$  is ----- 1  
a) -2                      b) 7                      c)  $-2+7$                       d)  $-2 \times 7$
4. If the number  $379^*$  is divisible by 5, then the value of  $*$  is ----- 1  
a) 1                      b) 2                      c) 4                      d) 0 or 5
5. Six times a number diminished by 7 comes out to be 41. The number is ----- 1  
a) 5                      b) 8                      c) 7                      d) 9
6. If the cost of 8 pens is ₹ 60, then the number of pens which can be bought for ₹ 67.50 is ----- 1  
-----  
a) 9                      b) 10                      c) 11                      d) 12
7. If 14% of a certain number is 63, find the number. 1  
a) 150                      b) 300                      c) 450                      d) 600
8. The surface area of a cube whose edge is 9cm is ----- 1  
a)  $684\text{cm}^2$                       b)  $486\text{cm}^2$                       c)  $648\text{cm}^2$                       d)  $458\text{cm}^2$
9. If  $2x + \frac{3}{4} = \frac{x}{2} + 1$ , then the value of  $x$  is ----- 1

a)  $\frac{1}{3}$

b)  $\frac{1}{4}$

c)  $\frac{1}{6}$

d)  $\frac{1}{7}$

10. If the number of faces and vertices in a solid are 7 and 10 respectively. The number of edges are -----  
 a) 17                      b) 15                      c) 19                      d) 13

**(Q.11-Q.15) Fill in the blanks.**

11. The standard form of 0.00010052 is ----- 1

12. The factorised form of  $3x-24$  is ----- 1

OR

On dividing  $57p^2qr$  by  $114pq$ , we get -----

13. The sum of all exterior angles of a 12 sided polygon is ----- 1

14. The expansion of  $(3a+2b)^2 =$  ----- 1

15. The multiplicative inverse of  $3^{-4} =$  ----- 1

**(Q.16-Q.20) Answer the following**

16. Find the common factors of  $10pq$ ,  $25qr$  and  $30rp$  1

17. If each edge of a cube is doubled, how many times will its volume increase? 1

18. 12 girls can finish a work in 6 days, 8 girls can do the same work in how many days? 1

19. Find the compound interest on ₹500 at 5% per annum for 1 year. 1

20. What are the coordinates of a point whose x- coordinate is 3 and y-coordinate is 4? 1

OR

What are the coordinates of the origin?

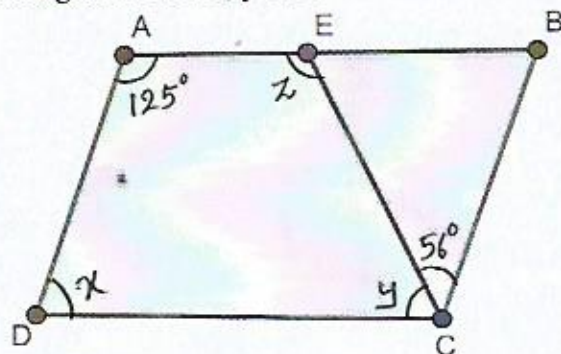
### SECTION B

21. The perimeter of a triangle is  $7p^2 - 5p + 11$  and two of its sides are  $p^2 + 2p - 1$  and  $3p^2 - 6p + 3$ . Find the third side. 2

22. Factorise :  $a^2 + bc + ab + ca$  2

23. Find the value of  $(3^0 + 4^{-1}) 2^2$  2

24. ABCD is a parallelogram. Find x, y & z. 2





25. Madan purchased an old scooter from a mechanic for ₹11,000 and spent ₹ 600 on its repairs. He then sold it for ₹12,992. How much percent did he lose or gain? 2

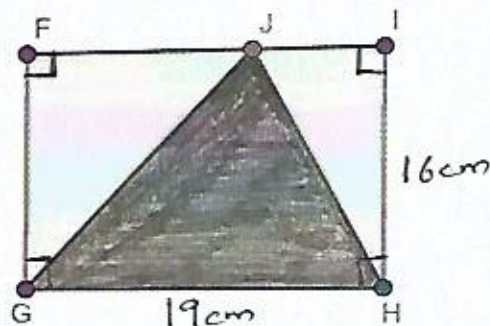
OR

The marked price of an article is ₹1250. If the discount of 15% is given, find the discount and the selling price.

26. The area of a rhombus is  $240 \text{ cm}^2$  and one of the diagonals is 16cm. Find the other diagonal. 2

OR

Find the area of the shaded portion in the following figure.



### SECTION C

27. Riya takes 125 minutes in walking a distance of 2000 metres. What distance would she cover in 350 minutes if the speed remains same? 3

28. Factorise: i)  $a^3 - 3a^2 - a + 3$  ii)  $8pq(p^2 - q^2) \div 2p(p - q)$  3

29. The ratio of lengths of parallel sides of a trapezium is 3:5. The distance between them is 12cm. If the area of the trapezium is  $720 \text{ cm}^2$ . Find the lengths of the parallel sides. 3

30. Simplify:  $\frac{25 \times 2^6}{2^4 \times 10 \times 5^{-8}}$  3

31. The perimeter of a parallelogram is 150cm. One of its side is greater than the other by 25cm. Find the lengths of all the sides of the parallelogram. 3

32. Check whether the number 24975 is divisible by 7. 3

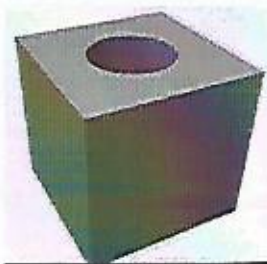
OR

The sum of three consecutive even natural numbers is 48. Find the numbers.

33. If  $x^2 + \frac{1}{x^2} = 38$ , find the value of  $x - \frac{1}{x}$ . 3

OR

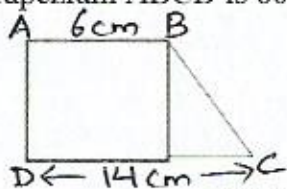
Find the area to be painted in the outer surface of the following block with a cylindrical hole. Given the length is 15cm, breadth 12cm, height 20cm and radius of the hole is 2.8cm.



34. The ratio of two numbers is 8:7. If 2 is subtracted from both the numbers, the ratio changes to 7:6. Find the numbers. 3

**OR**

The area of trapezium ABCD is  $60\text{cm}^2$ . What is the length of BC?



**SECTION D**

35. Simplify:  $\left\{\left(-\frac{2}{3}\right)^{-2}\right\}^3 \times \left(\frac{1}{3}\right)^{-4} \times \frac{1}{6} \times 3^{-1}$  4

36. Draw the line graph for the table of values, with suitable scales on the axes. 4

Distance travelled by a car.

Time( in hours)	6 a.m.	7 a.m.	8 a.m.	9 a.m.	10 a.m.
Distance(in km)	50	100	150	200	250

- a) What was the time when the car had covered a distance 175 km since its start?  
b) How much distance did the car cover during the period 7:30 am to 8:00 am?

37. Find the compound interest on ₹25,000 for  $1\frac{1}{2}$  years at 20% per annum when compounded annually. 4

**OR**

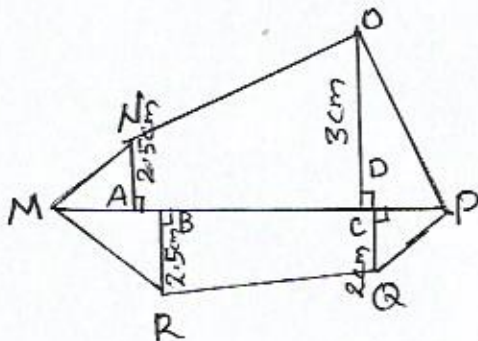
Factorise: a)  $3c^5 - 18c^4 - 48c^3$       b)  $81m^2 - 108mn + 36n^2$

38. a) A milk tank is in the form of a cylinder whose radius is 1.5m and length is 7m. Find the quantity of milk in litres that can be stored in the tank. 4

b) Find the height of a cuboid whose volume is  $275\text{cm}^3$  and base area is  $25\text{cm}^2$ .

**OR**

Find the area of the polygon MNOPQR as shown in the figure. If  $MP=9\text{cm}$ ,  $MD=7\text{cm}$ ,  $MC=6\text{cm}$ ,  $MB=4\text{cm}$ ,  $MA=2\text{cm}$ . NA, OC, QD and RB are perpendiculars to diagonal MP.





39. The diameter of a roller is 84 cm and its length is 120cm. It takes 500 complete revolutions to move once over to level playground. Find the area of the playground in  $m^2$ . 4

**OR**

A shopkeeper bought two calculators each at the same price. He sold one for ₹ 66 and gained 10%. At what price should he sell the second calculator so as to earn a profit of 15%?

40. a) A garrison of 750 men has provision for 20 weeks. If at the end of 4 weeks they are reinforced by 450 men, how long will the remaining provision last? 4  
b) Twenty cardboard boxes weigh 1.26 kg. How many boxes will weigh 3.78kg?