

BUDHA DAL PUBLIC SCHOOL PATIALA
FINAL EXAMINATION (14 March 2024)
MATHEMATICS
Class - VIII
(Set - A)

Time Allowed: 3 hours

Maximum Marks: 80

Instructions:

1. All questions are compulsory.
2. Section - A : Q.No. 1 to 6 carry 1 mark each
3. Section - B : Q.No. 7 to 12 carry 2 marks each
4. Section - C : Q.No. 13 to 22 carry 3 marks each
5. Section - D : Q.No. 23 to 30 carry 4 marks each

SECTION-A

- | | | |
|----|--|---|
| 1. | Find the area of a rhombus whose diagonals are 18cm and 12cm. | 1 |
| 2. | Factorise $81x^2 - 100y^2$ | 1 |
| 3. | A fair coin is tossed. Find the probability of getting head. | 1 |
| 4. | How many zero's are there in a cube of 100 ? | 1 |
| 5. | Evaluate $(2^0 + 3^0 + 1)$ | 1 |
| 6. | Tick the correct type of proportion:
Number of men and time to finish the same job. (Direct/ Inverse) | 1 |

SECTION-B

- | | | |
|-----|---|---|
| 7. | Numbers 1 to 20 are written on 20 separate slips, kept in a box and mixed well. One slip is chosen from the box without looking into it. What is the probability of
a) getting a number 15?
b) getting numbers less than 6? | 2 |
| 8. | Find the cube root of 13824 by prime factorization method. | 2 |
| 9. | A milk tank is in the form of a cylinder whose radius is 1.5m and length is 7m. Find the quantity of milk that can be stored in the tank. | 2 |
| 10. | a) Express 7×10^{-5} in usual form.
b) Evaluate $3^{-3} \times 3^0$ | 2 |
| 11. | Factorise $121b^2 - 88bc + 16c^2$ | 2 |
| 12. | Fill in the blanks:
a) A _____ graph displays data that changes continuously over period of time.
b) A line graph which is a whole unbroken line is called a _____. | 2 |

SECTION-C

13. An orphanage has enough food to feed 30 children in that orphanage for 7 days. How long would the food last if there were 5 more children in that orphanage? 3

14. Find the smallest number which when multiplied by 1800 will make the product a perfect cube. 3

15. Evaluate $\frac{2^{-5} \times 15^{-5} \times 9}{5^{-7} \times 6^{-5}}$ 3

16. Factorise : 3
 a) $63a^2 - 112b^2$ b) $p^2 + 6p - 16$

17. Draw the graph for the following table, with suitable scale on the axes. 3
 Interest on deposits for a year.

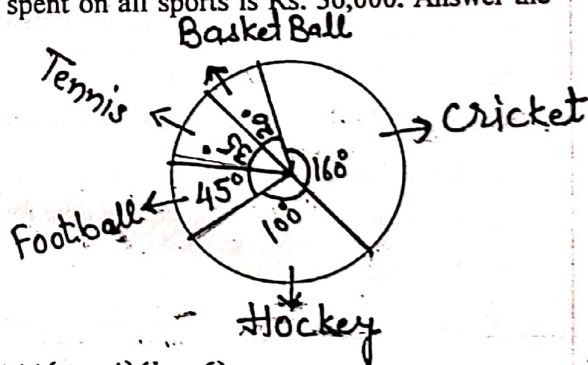
Deposit (in Rs.)	2000	4000	6000	8000	10000
Simple interest (in Rs.)	70	140	210	280	350

- a) Use the graph to find the interest on Rs. 5000 for a year.
 b) Does the graph pass through the origin?

18. A road roller takes 750 complete revolutions to move once over to level a road. Find the area of the road if the diameter of a road roller is 84cm and length is 1m. 3

19. Find the side of a cube whose surface area is 600 cm^2 . 3

20. The following pie - chart represents the amount spent on different sports by a school administration in a calendar year. If the money spent on all sports is Rs. 36,000. Answer the following questions: 3



- a) What is the total amount spent on Basketball?
 b) How much more amount is spent on hockey than on football?
 c) What is the amount spent on cricket?

21. a) Divide $96abc(4a - 16)(5b - 30) \div 144(a - 4)(b - 6)$ 3
 b) Find the common factors of $16x^3, -4x^2, 32x$

22. The area of trapezium shaped field is 480 m^2 , the distance between two parallel sides is 15m and one of the parallel side is 20m. Find the other parallel side. 3

SECTION-D

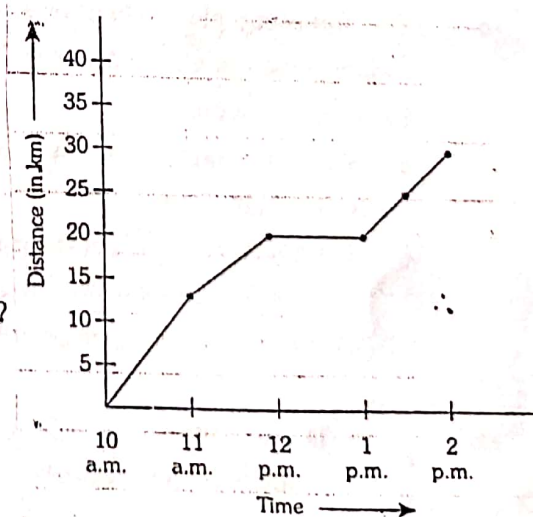
23. The volume of a box in the shape of a cube is 9261 cubic metres. Find the length of the edge of the box. 4
24. a) Find the value of x for $3^{5x-1} \div 3^3 = 3^{-5}$ 4
b) Simplify and write the result in positive exponent $(7^{-3} \div 7^7) \times 7^{-6}$
25. The amount of extension in an elastic string varies directly as the weight hung on it. If a weight of 150 gram produces an extension of 2.9cm, then what weight produces an extension of 17.4cm? 4
26. Factorise 4
a) $k^4 - u^4$
b) $(t^2 - 2tp + p^2) - z^2$
27. A car takes 2 hours to reach a destination by travelling at the speed of 60km/hr. How long will it take when the car travels at the speed of 80km/hr? 4
28. Draw a pie chart of the data given below. The time spent by a child during a day 4
Sleep – 8 hours
School – 6 hours
Home work – 4 hours
Play – 4 hours
Others – 2 hours

Case Based Questions:

29. A courier person cycles from a town to a neighbouring sub urban area to deliver a parcel to a merchant. His distance from the town at different times is shown by the following graph. 4

On the basis of given information, answer the following questions.

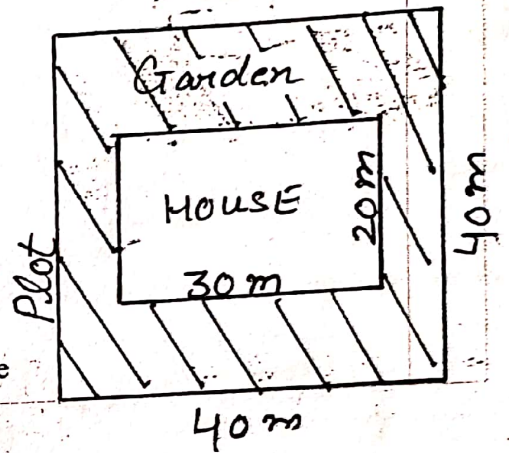
- 1) How much time did the person take for the travel?
- 2) How far is the place of the merchant from the town?
- 3) Did the person stop on his way? Explain.
- 4) During which period did he ride fastest?



30. Mr. Kamal has a square plot with the measurement as shown in the figure. He wants to construct a house in the middle of the plot. A garden is developed around the house.

On the basis of given information, answer the following questions.

- 1) What is the area of a plot?
a) 40×2 b) 40×40 c) 40×30 d) 40×25
- 2) Formula used to find the area of house is?
a) Side \times side b) $4 \times$ side c) $2(l + b)$ d) $l \times b$
- 3) What is the area of a garden?
a) 1600m^2 b) 600m^2 c) 1000m^2 d) none
- 4) What is the cost of developing a garden around the house at the rate of Rs. 10 per m^2 ?
a) Rs. 10,000 b) Rs. 100 c) Rs. 1000 d) none



BUDHA DAL PUBLIC SCHOOL PATIALA
FINAL EXAMINATION (14 March 2024)
MATHEMATICS
Class - VIII
(Set - B)

Time Allowed: 3 hours

Maximum Marks: 80

Instructions:

1. All questions are compulsory.
2. Section - A : Q.No. 1 to 6 carry 1 mark each
3. Section - B : Q.No. 7 to 12 carry 2 marks each
4. Section - C : Q.No. 13 to 22 carry 3 marks each
5. Section - D : Q.No. 23 to 30 carry 4 marks each

SECTION-A

- | | | |
|----|--|---|
| 1. | A fair coin is tossed. Find the probability of getting "Tail". | 1 |
| 2. | How many zero are there in the cube of 10 ? | 1 |
| 3. | Evaluate $(1 + 2^0 + 5^0)$ | 1 |
| 4. | Find the area of a rhombus whose diagonals are 12cm and 15cm. | 1 |
| 5. | Factorise $121a^2 - 9b^2$ | 1 |
| 6. | Tick the correct type of proportion :
Number of men and time to finish the same job. (Direct/Inverse) | 1 |

SECTION-B

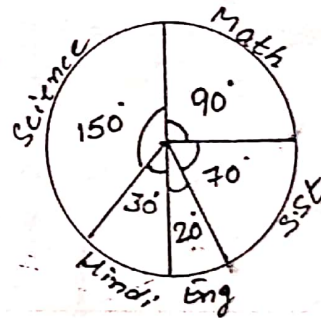
- | | | |
|-----|---|---|
| 7. | a) Express 4389000 in standard form.
b) Evaluate $5^0 \times 9^{-1}$ | 2 |
| 8. | Factorise $25y^2 + 20y + 4$ | 2 |
| 9. | Fill in the blanks:
a) A line graph which is a whole unbroken line is called a _____.
b) Co-ordinates of origin are _____. | 2 |
| 10. | Find the cube root of 15625 by prime factorization method. | 2 |
| 11. | Numbers 1 to 20 are written on 20 separate slips, kept in a box and mixed well. One slip is chosen from the box without looking into it. What is the probability of
a) getting a number 16?
b) getting numbers less than 8? | 2 |
| 12. | If the radius and height of a cylinder are 1.4cm and 21cm. Find the volume of a cylinder. | 2 |

SECTION-C

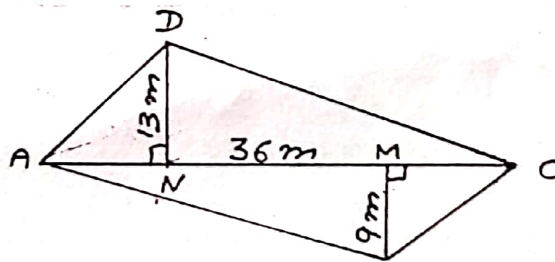
13. Factorise : 3
 a) $18b^2 - 8q^2$
 b) $a^2 + 5a - 6$
14. Evaluate $\frac{25 \times t^{-3}}{5^{-3} \times 10 \times t^{-4}}$ ($t \neq 0$) 3
15. Find the smallest number which 704 be divided to make it a perfect cube. 3
16. In a model of a boat, the mast is 7m high, while the mast of the actual ship is 14m high. If the length of the boat is 24m, how long is the model boat? 3
17. A road roller takes 500 complete revolutions to move once over to level a road. Find the area of the road if the diameter of a road roller is 91cm and length is 2m. 3
18. a) Divide $96xyz(3x - 12)(5y - 30) \div 144(x - 4) \times (y - 6)$ 3
 b) Find the common factors of $5pq, 10qr, 15rp$

19. The following pie - chart represents the marks scored by a student in Hindi, English, Maths, S.St and Science. If the total marks obtained by the students were 720, answer the following questions. 3

- a) In which subject did the student score 180 marks?
 b) How many more marks were obtained by the student in mathematics than in Hindi?
 c) How many marks were scored in S.St?



20. The diagonal of a quadrilateral shaped field is 36m and the perpendiculars dropped on it from the remaining opposite vertices are 9m and 13m. Find area of the field. 3



21. Find the side of a cube whose surface area is 5400 cm^2 . 3

22. Draw the graph for the following table, with suitable scale on the axes.
Interest on deposits for a year.

3

Deposit (in Rs.)	2000	4000	6000	8000	10000
Simple interest (in Rs.)	70	140	210	280	350

- a) Use the graph to find the interest on Rs. 5000 for a year.
b) Does the graph pass through the origin?

SECTION-D

23. A bus takes 3 hours to reach a destination by travelling at the speed of 40km/h. How long will it take when the bus travels at the speed of 60 km/h?

4

24. Factorise

4

a) $a^4 - b^4$

b) $(x^2 - 6x + 9) - y^2$

25. a) Find the value of x for $(-4)^{2x-1} = (-4)^2 \times (-4)^5$

4

b) Simplify and write the result in positive exponent $(5^{-7} \div 5^2) \times 5^{-4}$

26. The volume of a box in the shape of a cube is 9261 cubic metres. Find the length of the edge of the box.

4

27. If a box of chocolates is divided among 36 children, they will get 5 chocolates each. How many would each get, if the number of the children is reduced by 6?

4

28. Draw a pie chart of the data given below. The time spent by a child during a day

4

Sleep - 8 hours

School - 6 hours

Home work - 4 hours

Play - 4 hours

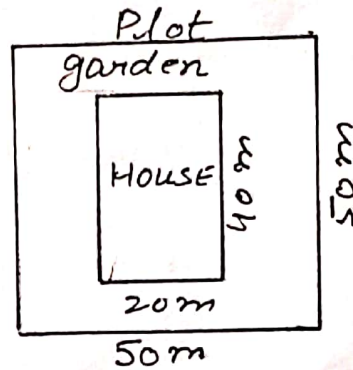
Others - 2 hours

Case Based Questions:

29. Ms. Kamal has a square plot with the measurement as shown in the figure. She wants to construct a house in the middle of the plot. A garden is developed around the house. 4

On the basis of given information, answer the following questions.

- 1) What is the area of a garden?
a) 1600m^2 b) 800m^2 c) 1700m^2 d) none
- 2) What is the area of a plot?
a) 50×50 b) 40×50 c) 40×20 d) 40×40
- 3) Formula used to find the area of house is?
a) $l \times b$ b) $2(l + b)$ c) $4 \times \text{side}$ d) $\text{Side} \times \text{side}$
- 4) What is the cost of developing a garden around the house at the rate of Rs. 10 per m^2 ?
a) Rs. 25,000 b) Rs. 8000 c) Rs. 2700 d) Rs. 17000



30. A courier person cycles from a town to a neighbouring sub urban area to deliver a parcel to a merchant. His distance from the town at different times is shown by the following graph. 4

On the basis of given information, answer the following questions.

- 1) How much time did the person take for the travel?
- 2) How far is the place of the merchant from the town?
- 3) Did the person stop on his way? Explain.
- 4) During which period did he ride fastest?

