



INDIAN SCHOOL SOHAR
FINAL EXAM 2017-18
MATHEMATICS

Date: 04.03.2018
Class: VIII

Marks: 80
Time: 3 Hours

General Instructions:

1. All questions are compulsory.
2. The question paper consists of 30 questions divided into four sections A, B, C and D. Section A comprises of 6 questions of 1 mark each, Section B comprises of 6 questions of 2 marks each, Section C comprises of 10 questions of 3 marks each and Section D comprises of 8 questions 4 marks each.

SECTION-A (Each question carries 1 mark)

1. Solve the equation $17 = \frac{x}{3} + 5$
2. Is 743047 a perfect square number? Why or why not?
3. Find the profit in rupees if a profit of 5% is made by selling a fan bought at Rs 2800.
4. Simplify the expression $3y(2y - 7) - 3y$.
5. Factorise $15a^2 + 18a$
6. Identify whether the following quantities vary directly or inversely with each other.
 - a) Speed (x) and time (y), (distance covered remains the same).
 - b) Number of days a worker worked in a month and the total wages received in the month.

SECTION – B (Each question carries 2 marks)

7. Solve the equation $\frac{x}{3} - \frac{x}{7} = 8$
8. The number of boys and girls in a class are in the ratio 3:7. The number of girls is 16 more than the number of boys. Find the number of boys and girls in the class.
9. Find the square root of 1764 by prime factorization.
10. Find the square root of 3481 by long division method.
11. Find the volume of a cylinder with height 10 cm and radius 7 cm.

12. Express the following numbers in standard form.

- a) The average distance from the earth to the Mars is 225,000,000 km
- b) The longest human chromosome is approximately 0.0000001 cm in length.

SECTION – C (Each question carries 3 marks)

13. Solve the equation $5x + 6 = 6(x - 1) + 5$

(OR)

Solve the equation $3(6 + t) = 4(8 - t)$

14. Find the smallest number by which 9408 must be divided so that the quotient is a perfect square. Find also the square root of the quotient.

15. Ms. Rekha runs a textile shop. She bought 5 sarees for Rs 1240 each. One of the sarees she sold at a price of Rs 1000 to a poor woman. She sold the remaining four of them at a price of Rs 1400 each. What is her overall profit or loss in the transaction? Find the overall profit or loss percent. What value do you find in Ms. Rekha?

16. Find the product of $\left(3x - \frac{1}{5}\right)\left(3x - \frac{1}{5}\right)$ using suitable identity.

17. A cuboid shaped box has dimensions 50 cm × 45 cm × 30 cm. How many small cubes of side 5 cm can be placed in it?

(OR)

A milk tank in the form of a cuboid has dimensions 2.5 m × 1.5 m × 0.7 m. Find how many liters of milk it can hold.

18. Express as a rational number in the form of p/q. $\left\{\left(\frac{4}{3}\right)^{-1} - \left(\frac{1}{4}\right)^{-1}\right\}^{-1}$

(OR)

Evaluate $(3^{-2} + 4^{-2}) \times \left(\frac{1}{5}\right)^3$

19. 56 men can do a piece of work in 42 days. How many men can do the work in 14 days?

20. Factorise the expression $x^2 - 4x - 21$.

21. On a graph sheet draw a line passing through points (2,5) and (5,2). Find the coordinates of the points at which the line intersects the x-axis and y-axis.

22. The temperature in Muscat during a day in February is given below. Construct a line graph to represent the data.

Time	12 am	3 am	6 am	9 am	12 pm	3 pm	6 pm	9 pm
Temperature in ° C	22	21	20	22	27	27	26	24

SECTION – D (Each question carries 4 marks)

23. The difference between two positive integers is 50. The ratio between them is 1:3. Find the integers.

(OR)

The sum of the ages of a father and his son is 54 years. Three years ago the age of the father was three times that of his son. Find their present ages.

24. Find the smallest square number divisible by each one of the numbers 8, 9 and 10.

25. Mohan deposited Rs 50000 in a bank as fixed deposit for 2 years. The Bank gives 10% interest compounded annually. Find the amount and compound interest that Mohan will receive after 2 years.

26. If $x - \frac{1}{x} = 9$ find the value of $x^2 + \frac{1}{x^2}$

(OR)

If $x + y = 12$ and $xy = 14$, find the value of $x^2 + y^2$.

27. A road roller takes 925 complete revolutions to move once over to level a ground.

Find the area of the ground in Square meters if the diameter of the roller is 0.7m and its length is 0.8m.

28. Simplify $\frac{36 \times x^{-5}}{2^{-3} \times 6^2 \times x^{-8}}$

29. 240 soldiers in an army camp had food provision for 30 days. After 5 days 40 soldiers were transferred to another camp. Find how many days the provision will last.

30. Divide $(x^2 + x - 56) \div (x + 8)$
