KOTHARI INTERNATIONAL SCHOOL, NOIDA
TERM END ASSESSMENT, 2023-2024
GRADE 8   SUBJECT: MATHEMATICS
SET: B   SECTION B (SUBJECTIVE QUESTIONS)

DAY & DATE: Thursday, 07.03.2024 **TIME ALLOWED: 2 hr 30 Mins.**
NAME: _____ **MAXIMUM MARKS: 60**

GENERAL INSTRUCTIONS:
1. This question paper consists of 3 pages and 22 questions.
2. It is compulsory to attempt all the questions.
3. Show steps/working wherever necessary.

<u>Do as directed</u>: -

Q1. Find the value of: $\sqrt[3]{27 \times 2744}$ **2M**

Q2. Attempt **<u>any one</u>** from the following: **2M**
A person shops and spends 75% of his money. If he is left with Rs. 600 now, find out how much money he had in the beginning.
OR
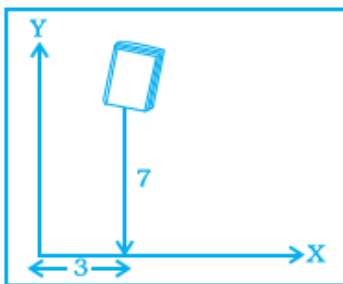Find the cost price of an article when:
SP = ₹34.40 and Gain = 7 ½ %

Q3. Find the greatest 4 - digit number which is a perfect square?   **2M**

Q4. The area of a rectangle is $x^2 + 19x - 20$. Find the possible length and the breadth of the rectangle.

2M

Q5. Fourteen sheets of a book weigh 35 grams. How many sheets will weigh 1.5 kg?   **2M**

Q6. Fill in the blanks for the given figure: **2M**

a. _____ are the coordinates for the position of the book on the table**.**   (1)

b. If the book is moved 3 units to the left, its coordinates will lie on the _____axis.   (1)

Q7. An iron cube has each side equal to 5cm.Find its volume and also its weight in Kg if 1 cu.cm of iron weighs 50 grams.   **2M**

Q8. State true or false for the following and justify your answer with an example: **2M**

(i) If a number is doubled then its cube is 27 times the given number.
(ii) The length of the side of a cube is 5cm so its surface area is 150 sqm.

Q9. Find the least number which must be subtracted from 1886 so as to get a perfect square. What is the square root of the new number? **2M**

Q10. Solve: $((2x – 3)/(4x + 5)) = (1/3)$ **2M**

Q11. A fancy fan is marked at Rs 15600 and it is available for Rs 12480. Find the discount given and discount percent. **2M**

Q12. If one of the factors of $(5x^2 + 70x – 160)$ is $(x – 2)$. Find the other factor. **3M**

Q13. 1200 soldiers in a fort had enough food for 28 days. After 4 days, some soldiers were transferred to another fort and thus the food lasted now for 32 more days. How many soldiers left the fort? **3M**

Q14. Answer the following questions: **3M**

(a) What must be added to $x^3 + 3x - 8$ to get $3x^3 + x^2 + 6$? (2)

(b) Write the numerical coefficient of x^3 from the answer you get in part (a). (1)

Q15. Using the identity, solve for the value of 'a': $8a = 35^2 - 27^2$ **3M**

Q16. A lawnmower takes 750 complete revolutions to cut grass on a field. Calculate the area of the field if the diameter of the lawnmower is 84 cm and the length is 1 m. **3M**

Q17. For the expression: $2y^2 - 3y^2 + 4y^3$ **3M**

(a) Write all the unlike terms. (1)

(b) Write all the factors of the terms. (1)

(c) Classify the expression as Monomial, Binomial or Trinomial (1)

Q18. Answer the questions:

4M

(i) Check and show that (6, 8, 10) is a Pythagorean triplet? (1)

(ii) If the area of a square is 1296 cm^2, find the measure of its side. (1)

(iii) Find the least square number which is divisible by each of the number 4, 8 and 12. (2)

Q19. Compute the following: **4M**

Maria invested ₹ 8,000 in a particular business. She would eventually be paid interest at 5% per annum compounded annually. Find out:

(i) The amount credited against her name, at the end of the second year. (2)

(ii) The interest for the third year (2)

Q20. Fill in the blanks with correct answers: **4M**

(a) $9x – ($ _____ $) = -21$ has the solution -2 (1)

(b) In a linear equation, the maximum power of the variable in the equation is ___ (1)

(c) If x/5 +30 = 18, then x = ____ (1)

(d) While solving a linear equation, there can be _____ value/s (one/many) for the variable. (1)

Q21. Do as directed: **4M**

A bank gives 10% simple interest per annum, on the deposits by the Ladies. Draw a graph showing the relation between the amount deposited and the simple interest earned by the ladies (take at least 4 points) and answer the following from the graph. (2)
(i) The annual interest earned for an investment of ₹ 250 (1)
(ii) The investment one has to make to get an annual interest of ₹ 70. (1)

Q22. Case Study: (Attempt any one of the following) **4M**

The students of KIS were asked to participate in a competition for making and decorating penholders in the shape of a cylinder with a base, using cardboard. Each penholder was to be of radius 3 cm and height 10.5 cm. The Art department of KIS was to supply the competitors with cardboard for the same. If there were 35 competitors, how much cardboard was required to be bought for the competition?

OR

The lateral surface area of a hollow cylinder of a hollow cylinder is 4224 cm^2. It is cut along its height and formed a rectangular sheet of width 33 cm. Find the perimeter of rectangular sheet.

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