



FEDERAL DIRECTORATE OF EDUCATION

Summer Vacation Task

Mathematics-----Class-VIII

**SESSION
2023-24**



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SUMMER VACATION HOMEWORK

CLASS : 8th

Note: Summer Vacation Homework must be completed in full. Attempt the questions on loose sheets. File containing all loose sheets must be submitted on the first day after vacation.

SUBJECT : MATHEMATICS

VACATION TASKS

Sr.No.	Student Learning Objective	Task/Problems/Test Items/Exercises
1.	Checking of terminating and non terminating and their conversion in decimals	<p>1) Check whether these are terminating or non- terminating decimal. Also, convert them into decimal number.</p> <p>i) $\frac{8}{3}$ ii) $\frac{1}{4}$ iii) $\frac{15}{7}$ iv) $\frac{11}{20}$</p> <p>2) Adnan and Saleem are taxi drivers. Adnan started his journey at 8:30 a.m. and stopped at 9:30 a.m. by covering a distance of 20 km. on the other hand, Saleem travelled 50 km in 2 hours. Assuming that they travel at constant speed, compare the distances travelled by them in first hour of their journey.</p> <p>3) Arrange these rational numbers in ascending and descending order.</p> <p>i) $\frac{5}{8}, \frac{5}{6}, \frac{7}{4}, \frac{3}{5}$ ii) $\frac{15}{7}, \frac{-5}{3}, \frac{7}{24}, \frac{-13}{5}$</p> <p>4) Ahmed purchase 12 meter long piece of cloth. He used $\frac{3}{4}$ of it and $\frac{1}{9}$ of remaining is damaged. How much cloth will he have left over?</p> <p>5). Monthly test scores of a Student are $\frac{10}{15}, \frac{12}{25}, 0.5$ and 75%. Arrange the scores in ascending and descending order.</p>
2	Recognition of absolute values	<p>1) Find the absolute of the following when $x=1$ 2 3</p> <p>i) $1 + x$ ii) $-x + 100$ iii) $x + -5$</p> <p>2) Find the absolute of the following</p>

		i) $ 7 $ ii) $ -7 $ iii) $ 7-2 $ iv) $ 2+3 $ v) $ -3 \times 5 $ 3) Arrange the given numbers in ascending order. $ -24 $, $ 21 $, $17 $, $ -109 $, $ -15 $, $ -19 $, $ -75 $, $ 16 $
3	Finding additive and multiplicative inverse	Find multiplicative and additive inverses of the following numbers 1) 12 2) $\frac{1}{13}$ 3) 14 4) -11 5) $-\frac{2}{3}$ 6) -8 7) $\frac{11-3}{-2}$ 8) $3-25+7$ 9) 0 10) 1
4	Rounding off Whole numbers and rational numbers to a required degree accuracy and Recognition of Significant figures	1. Round each of the following numbers to the nearest 100 a) 108 b) 199 c) 3471 d) 59 e) 33 f) 451 2. Write each of the following numbers to 3 sig figures a) 37412 b) 84563 c) 18.3071 d) 0.0025713 e) 4.0071 f) 0.3684 3. Round 4765173 to a) the nearest million b) the nearest 10 c) the nearest 1000 d) the nearest 100 4. A cricket match is watched by 56742 people Write this number correct to the nearest a) 10000 b) 1000 c) 10
5	Problems related to Inverse and Direct proportion	1) Ayesha uses 400 g of flour to make 8 muffins. How much flour would he need to make 30 muffins? 2) 6 builders can build 10 houses in 30 months. How long would it take 18 builders to build the same number of houses? 3) A fort had provisions for 300 men for 90 days. After 20 days, 50 men left the fort. How long would the food last at the same rate? 4) 8 cows can graze a field in 28 days. How long would 2 cows take to graze the same field? 5) If two cardboard boxes occupy 500 cubic centimetres of space, then how much space is required to keep 200 such boxes? 6) If 270 kg of corn would feed 42 horses for 21 days, for how many days would 360 kg of corn feed 21 horses?
6	Basic concepts of sets a) Equality of sets b) Formation of subsets c) Union and	1) Check whether the given sets are equal sets: $A = \{1, 2, 3, 4\}$ and $B = \{2, 4, 1, 3\}$. 2) Write the subsets for the set $A = \{1, 3, 5, 7\}$ $B = \{a, b, c, d, e\}$ 3) Write the set $A = \{1, 2, 3, 4, 5, \dots\}$ in set-builder form and

	Intersection of sets	<p>descriptive form.</p> <p>4) If $A = \{1, 3, 5, 7, 9, 11\}$ and $B = \{1, 2, 3, 13\}$, then find $A - B$ and $B - A$.</p> <p>5) Find $A \cup (B \cap C)$, if $A = \{1, 3, 5\}$, $B = \{2, 4, 6\}$ and $C = \{1, 5, 7\}$.</p>
7	Apply Square and Square Roots, Cube and Cube Roots in Real life problems	<p>i. The area of square field is 92.16 sq.m. How much string is required for fixing along the sides as a fence?</p> <p>ii. Find the greatest number having four digits which is perfect square.</p> <p>iii. Arrange 1600 students in such a way as the number of rows and number of students in each row should be equal. Find the number of rows and the number of students in each row.</p> <p>iv. A rectangular field has area of 768 square meters, if its length is thrice its width. Find perimeters of the field.</p> <p>v. Arrange 225 balls to make a square formation. How many balls should be in each row?</p> <p>vi. Area of a circular field is 2464 sq.m. Find the circumference of the circle.</p> <p>vii. Area of square tile is 195 cm^2. Find the perimeter of tile, leaving your answer correct to 1 decimal point.</p> <p>viii. The Volume of cube is 2744 cm^3.</p> <p>a) Find length of one side of the cube.</p> <p>b) Find the area of the one face of the cube.</p>
8	Simplification of algebraic expression in one variable	<p>1) $4 = 7b + 10$</p> <p>2) $9 = 8 - 3c$</p> <p>3) $11 = 2s - 5$</p> <p>4) $-4z + 11 = -12 - 7(z + 4)$</p> <p>5) $-w + 6 = 6 + 5(w + 5)$</p> <p>6) $-9x - 3 = -5 + 8(x - 4)$</p> <p>7) $6(b + 8) + 5 = 3b + 11$</p> <p>8) $-7 + (-7) = -7(a - 11)$</p> <p>9) $4(k + 12) + 4k = 12$</p> <p>10) $0 = 6(n - (-8))$</p>
9	Using formula to generate the sequence	<p>Write the sequence by using following formula:</p> <p>1) $a_n = 2n + 1$</p> <p>2) $a_n = 3n - 4$</p> <p>3) $a_n = 4(n + 1)$</p>
10	Find out the specified	Write next four terms of the

	term of sequence	following sequences: a) 12,16,21,27 b) 3,8,13,18 c) -1,-3,-5,-7,
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VACATION PROJECT

Students have to complete one project to practice the practical application of knowledge. Following is the detail of project.

Student Learning Objective	Project Details	Project Deliverables Details
Recognize perfect square and perfect cube and write numbers in the form of Square and Square Roots, Cube and Cube Roots.	Students will make a Clock in which they will write number on the clock (1-12) in the form of square, square roots, cube and cube roots. Write numbers like 9 as 3^2 or 5 as $\sqrt{25}$ or 2 as $\sqrt[3]{8}$.	Students will make a clock by using cardboard, chart paper or glaze paper, and must submit on the first day after vacation.
i) Recognize Ungrouped and Grouped Data ii) Construct Frequency Table iii) Draw Bar Graph, Pie Chart, Histogram iv) Calculate mean, median, mode	Students will collect ungrouped data of marks of Mathematics test in Bimonthly Exam of class: i) Construct Frequency Table ii) Draw Bar Graph iii) Draw Pie Chart iv) Draw Histogram iv) Calculate mean, Median, mode	Students will make a frequency distribution table on loose sheets. Draw bar graph, Pie chart, Histogram on graph paper. Calculate mean, median and mode on loose sheets.