ÉCOLE GLOBALE
INTERNATIONAL GIRLS SCHOOL
Dehradun

HOLIDAY HOMEWORK   **SUMMER BREAK 2018-19**
CLASS VIII   **SUBJECT : MATHEMATICS**

Project work:

Make a project on any one of the following topics:

1. Area of circle by coiling Method . The students have to give suggestive demonstration of the formula that area of the circle is half the product of its circumference and radius.(Materials required: different colour threads, white or coloured sheet of paper, scissors, glue)

2. Prepare a power point presentation for the same and bring the project in a pen drive/ CD
   History of the number π. Cover the following points:
   (a) Investigation of various historical aspects of π.
   (b) Knowledge about π in various civilizations.
   (c) Approximation of π (finding value of π) by measuring the circumferences of different circles using a thread corresponding to each radius and finding the value for(circumference / diameter) in each case.
   (d) Circle and π.
   (e) Investigation of replacing π with Tau (τ)

3. Any mathematical game which can be presented in games corner in the school exhibition. (eg. Tower of Hanoi, L – game etc). You may use a hard board and bring the project in parts and assemble it here.

ECOLE GLOBALE INTERNATIONAL GIRLS' SCHOOL

Holiday Assignment(2018-19)

Class: 8th   **Sub: Mathematics**

Assignment –I (Unit: Squares and Square Roots)

1. Which of the following numbers are perfect squares? Justify your answer **by prime factorisation method**.

(a) 1764   (b) 54756

2. Write a Pythagorean triplet whose one of the members is :

(a) 6   (b) 18   (c) 20   (d) 13   (e) 12

3. Find the square root of $2^6 \times 3^4 \times 5^8$.

4. Evaluate:

(a) $\sqrt{\dfrac{361}{625}}$ (b) $\sqrt{0.0256}$ (c) $\sqrt{7744}$

5. Find the square root of the following by **division method**:

(a) 2304   (b) 40401   (c) 182.25   (d) 0.00015129   (e) $75\dfrac{46}{49}$

6. For each of the following numbers, find the smallest whole number by which it should be multiplied so as to get a perfect square number. Also find the square root of the square number so obtained.

(a) 1100   (b) 735

7. Find the least number which must be added to the following numbers to make each a perfect square:

(a) 4931   (b) 2546031

8. Find the least number which must be subtracted from 2361 to make it a perfect square.

9. If $\dfrac{x}{\sqrt{2.25}} = 2$, then find the value of x.

10. Evaluate $\sqrt{18225}$. Using the information, find the value of
$\sqrt{18225} + \sqrt{182.25} + \sqrt{1.8225} + \sqrt{0.018225}$

11. Find the length of the side of a square whose area is 441 cm^2

Assignment -2 (MCQ)

1. How many non square numbers lie between 11^2 and 12^2?
   (a) 21   (b) 23   (c) 22   (d) 20

2. 25 can be express as the sum of first _____ consecutive odd numbers .
   (a)   (b) 4   (c) 6   (d) 3
3. How many numbers lie between square of 12 and 13?
   (a) 21   (b) 23   (c)22   (d)24

4. What will be the value of ' x' in Pythagorean triplet $(6,8, x)$?
   (a) 5   (b) 7   (c)10   (d) 11

5. The square of -9 is
   (a) -81   (b) 81   (c) 18   (d) -18

6. The square root of 6400 is
   (a) 80   (b) 81   (c) 32   (d) 23

7. By which smallest number 90 must be multiplied so as to make it a perfect square ?
   (a) 10   (b) 2   (c) 5   (d) 3

8. By which smallest number 48 must be divided so as to make it a perfect square ?
   (a) 2   (b) 3   (c) 6   (d) 4

9. Which smallest number should be added to 80 so as to make it a perfect square ?
   (a) 2   (b) 3   (c) 1   (d) 4

10. What could be the possible "one's digit" of the square root of 625?
      (a) 5   (b) 0   (c) 4   (d) 8

11. The Smallest number by which 12348 must be divided to obtain a perfect square is
      (a) 3   (b) 5   (c) 4   (d) 7

12. $\sqrt{0.9} = ?$
      (a) 3   (b) 0.3   (c) 0.03   (d) 0.33

13. $\sqrt{1.0816} = ?$
      (a) 1.04   (b) 1.286   (c) 0.904   (d) 1.35

14. $\dfrac{\sqrt{288}}{\sqrt{128}} = ?$
      (a) $2\dfrac{1}{14}$ (b) $2\dfrac{3}{14}$ (c) $2\dfrac{5}{14}$ (d) $2\dfrac{9}{14}$

15. $\sqrt{0.9} \times \sqrt{1.6} = ?$
      (a) 0.12   (b) 1.2   (c) 0.75   (d) 12

Assignment – 3 (Show the steps also)

1   Write a Pythagorean triplet whose smallest member is 8.

2   Find a Pythagorean triplet in which one member is 12.

3   Write a Pythagorean triplet whose one member is.
    (i) 6 (ii) 14 (iii) 16 (iv) 18

4   By repeated subtraction of odd numbers starting from 1, find whether the following numbers are perfect squares or not? If the number is a perfect square then find its square root.
    (i) 121 (ii) 55 (iii) 36 (iv) 49 (v) 90

5   Find the least number which when added to 599 to make it a perfect square.

6   In a cinema hall 729 people are seated in such a way that the number of people in a row is equal to number of rows. Then how many rows of people are there in the hall?

7   The length of a rectangular park is 80m and breadth is 60m. Find the length of its diagonal.

8   Give one Pythagorean triplet in which one of the number is 12.

9   Find the smallest number which when multiplied by 180 makes it a perfect square.

10   If the area of a square is 38.44 sq. cm. then find the side of the square.

11   A rectangular paper of length 45cm and breadth 5 cm is cut to form a square with the same area. What is the side of the square?

12   Find the least number by which 200 must be multiplied to make it a perfect square.

13   Find the least number by which 384 must be divided to make it a perfect square

14   Find the square root of 529 using long division method.

15   Find the square root of 6.0516 Find the least number, which must be subtracted from 3250 to make it a perfect square

16   Find the least number, which must be added to 1825 to make it a perfect square

17   Find the square root of 3 correct to two places of decimal.

18   Find the length of the side of a square where area is 441 m^2.

Assignment 4 (Cubes and Cube roots)

1. Find the cube root of (a)512.(b) 27 x 64

2. Is 243 a perfect cube? If not find the smallest number by which 243 must be multiplied to get a perfect cube

3. Is 250 a perfect cube? If not, then by which smallest natural number should 250 be divided so that the quotient is a perfect cube?

4. Find the cube root of $\dfrac{125}{216}$ and $\dfrac{-512}{1000}$.

5. Find the cube root of 0.027.

6. What is the cube root of 0.001728?

7. Find the value of $\dfrac{\sqrt[3]{729} - \sqrt[3]{27}}{\sqrt[3]{512} + \sqrt[3]{343}}$.

8. The volume of a cubical box is 19.683 cu. cm. Find the length of each side of the box.

9. Find the smallest number by which the number 108 must be multiplied to obtain a perfect cube

10. Find the smallest number by which the number 88 must be divided to obtain a perfect cube

11. The volume of a cube is 64 cm^3. Find the side of the cube

12. If volume of a cube is 216 cm^3. What is the length of side of cube.

13. Three cubes of sides 3cm, 4cm and 5 cm respectively are melted to form a new cube. What is the side of new cube?

14. Simplify: $15^3 - 14^3$

15. Simplify: $\sqrt[3]{(1.1)^3} \times \sqrt[3]{1.331}$

16. Find the smallest number by which $(2 \times 2 \times 3 \times 3 \times 3)$ is to be multiplied so that resultant number is a perfect cube.

17. Three solid wooden cubes of different colours with sides, 30 cm are placed side by side. How much cubic cm of wood is required to make it?

18. A cubical box has a volume of 512000 cubic cm. What is the length of the side of box?

Assignment –I (Unit: Rational Numbers)

SECTION A

1. Write three rational numbers occurring between 1/3 and 4/5.

2. Multiply the negative of 2/3 by the inverse of 9/7.

3. What should be added to -16/3 to make it 1/9?

4. What should be subtracted from 5/8 to make it -1?

5. Write different properties of a rational number.

6. Represent 3/4 and 8/9 on a number line.

7. Find the greater of the two -12/5 and 4/9.

8. Multiply the negative of 29/2 by its inverse.

9. Write a rational number equivalent to 9/10 having 90 as numerator.

10. Write a rational number equivalent to 18/29 having 87 as denominator.

11. Write 2/3, -4/9, -8/11 in ascending order.

12. Write 2/3, -4/9, -8/11 in descending order.

SECTION B

1. Write:
(i)   A rational number which has no reciprocal.
(ii)   A rational number whose product with a given rational number is equal to the given rational number.
(iii)   A rational number which is equal to its reciprocal.

2. Find: $\dfrac{5}{22} + \dfrac{3}{7} + \left(\dfrac{-8}{21}\right) + \left(\dfrac{-6}{11}\right)$
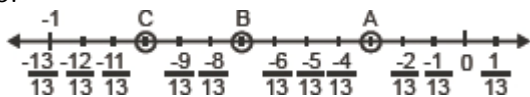
3. Find: $\left(\dfrac{-14}{9}\right) \times \dfrac{3}{5} \times \left(\dfrac{-4}{7}\right) \times \dfrac{15}{16}$

4. Find three rational number between $\dfrac{3}{7}$ and $\dfrac{2}{3}$.

5. Find five rational numbers between $\dfrac{2}{5}$ and $\dfrac{1}{4}$.

6. Find 10 rational numbers between $\left(\dfrac{-2}{3}\right)$ and $\dfrac{2}{3}$.

7. Write the rational number represented by the points A, B, and C on the following number line:

8. The product of two rational numbers is $\left(\dfrac{-28}{81}\right)$. If one of them is $\dfrac{-2}{3}$, then find the other

SECTION C

 1 From a rope 11 m long, two pieces of lengths 13/5 m and 33/10 m are cut off. What is the length of the remaining rope?

2. A drum full of rice weighs 241/6 kg. If the empty drum weighs 55/4 kg, find the weight of rice in the drum.

3. A basket contains three types of fruits weighing 58/3 kg in all. If 73/9 kg of these be apples, 19/6 kg be oranges and the rest pears. What is the weight of the pears in the basket?

4. On one day a rickshaw puller earned $80. Out of his earnings he spent $68/5 on tea and snacks, $51/2 on food and $22/5 on repairs of the rickshaw. How much did he save on that day?

5. A car is moving at an average speed of 202/5 km/hr. How much distance will it cover in 15/2 hours?

6. One liter of petrol costs $187/4. What is the cost of 35 liters of petrol?

7. An airplane covers 1020 km in an hour. How much distance will it cover in 25/6 hours?

8 The cost of 7/2 meters of cloth is $231/4. What is the cost of one meter of cloth?

9. A cord of length 143/2 m has been cut into 26 pieces of equal length. What is the length of each piece?

10. The product of two rational numbers is 48/5. If one of the rational number is 66/7, find the other rational number.

11. Rita had $300. She spent 1/3 of her money on notebooks and 1/4 of the remainder on stationery items. How much money is left with her?