



# ÉCOLE GLOBALE

INTERNATIONAL GIRLS' SCHOOL  
Dehradun

## HOLIDAY HOMEWORK CLASS VII

## SUMMER BREAK 2018-19 SUBJECT : MATHEMATICS

### PROJECT

#### 1. Topic : Tessellation

Prepare a power point presentation of the following and bring the project in a pen drive/ CD.

Also bring the scrap file on different type of colourful cut outs of tessellation pattern .

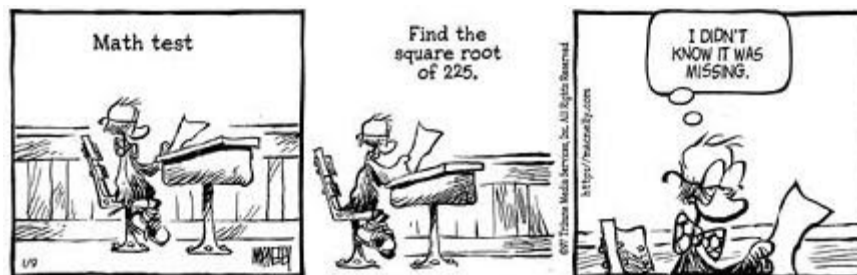
Project should include-

- History of Tessellation
- Types of Tessellation
- Mathematics/geometry in Tessellation
- Tessellation in tiling pattern
- Tessellation in nature
- Tessellation in puzzle and recreational mathematics.

#### 2. Create a number line game which includes natural numbers, whole numbers, fractions and integers using the following details-

- Spiral game/ snakes and ladders
- Each number of steps have a question and a situation. ( eg if the answer is wrong move back 3 paces)
- Create question cards for the players to pick when they roll the dice.

#### 3. Drawing a cartoon



Summary: This project must contain a comic strip that demonstrates or explains a mathematical technique or concept.

Requirements: The comic strip must contain...

eight panels minimum [the [MacNelly](#) cartoon above contains only three panels],

clearly drawn characters,

an explanation of a mathematical technique, concept, or rule,

element(s) of humor, irony, drama, ...

### Assignment:

#### Integers

1. The following shows the temperature in degree Celsius in Srinagar in various months.

Months	November	December	January	February	March
Temp ° C	1	-1	-2	0	3

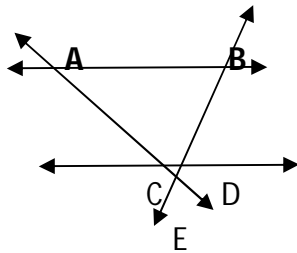
- Represent the following temperatures on a number line.
  - Name the hottest and the coldest month from the above data.
  - What is the temperature difference between the hottest and the coldest months in Srinagar?
  - What is the temperature difference between the months November and February?
2. Verify  $-a - (-b) = b - a$  for the following **a** and **b** values:
- $a = 2, b = -8$
  - $a = -10, b = -5$
3. In a competitive exam of 40 questions, +2 is awarded for a correct answer and -1 for every wrong answer. Find the total score if the child had 12 wrong answers in her attempt of all questions.
4. Verify  $a \times (b + c) = a \times b + a \times c$  for the following **a**, **b** and **c** values:
- $a = -1, b = -2, c = -3$
  - $a = -20, b = 15, c = -25$
5. Evaluate  $[-1 - (-2) + (2 \times 5) - 2]$
6. The product of two numbers is 135. If one of the numbers is -45, find the other number.
7. By taking any two integers, verify that the multiplication is commutative whereas division is not.

## Fractions and Decimals

- Fill in the blanks with appropriate symbols '<', '>', '=':
  - $1.2 \times 3.4$  \_\_\_\_\_  $0.12 \times 34$
  - $1 \div 1.1$  \_\_\_\_\_  $1.1 \div 1$
- Find the half of five and three-fourths.
- Draw a square and divide it in eight equal parts. Shade one-fourth of the square.
- Find:
  - $\frac{1}{3}$  of reciprocal of  $\frac{2}{3}$
  - $1\frac{1}{2} \div 2$
  - If  $11 \times 13 = 143$ , find  $1.1 \times 1.3$ .
- The cost of  $4\frac{1}{2}$  kg of wheat flour is Rs 135. Find the cost of  $2\frac{3}{4}$  kg of wheat.
- Mahesh played three basket ball games. In the first game, he scored 9 points. In the second game he scored 13 points. In the third game he scored 8 points. What are his average points per game?
- The sizes (in cm) of the shirts sold by a shopkeeper in a month are:  
90, 100, 95, 90, 105, 100, 95, 105, 95, 90, 110, 95, 100, 105, 90, 95, 95, 100, 95, 100, 95, 110, 100, 90, 95, 100, 105, 90, 90, 100, 95, 90, 110.  
Tabulate the above data, find the mode and mean of the shirt size.
- Find the mean, median and mode of the data: 11, 16, 11, 14, 14, 10, 12, 11, 13.

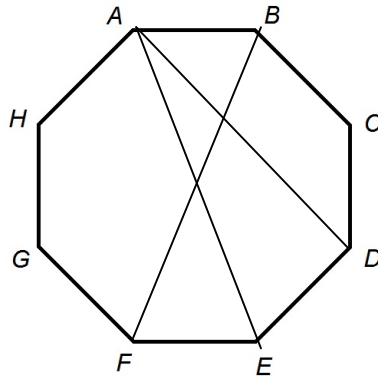
## Line and Angles

- Fill in the blanks:
  - If two angles are complementary, the sum of their measure is \_\_\_\_\_.
  - Two adjacent angles those are supplementary for a \_\_\_\_\_.
- Define parallel lines. Draw a pair of parallel lines and mark its co-interior angles.
- Draw a square ABCD. Join the diagonals BD. Find the complement of the  $\angle ABD$ .
- In parallelogram PQRS, angle P =  $80^\circ$ . Find the other 3 angles.
- 



If  $AB \parallel CD$ , angle  $CED = 70^\circ$ , find the angles BAC, ABD, ACD and BDC .

6. Name a pair of :
- Adjacent angles
  - Linear pair angles
  - Vertically opposite angles



### Simple Equations

Q-1) Complete the last column of the table.

Sr. No.	Equation	Value	Say, whether the equation is satisfied. (Yes/No)
1	$a + 4 = 0$	$a = 4$	-
2	$a + 5 = 0$	$a = 0$	-
3	$a + 4 = 0$	$a = -4$	-
4	$a - 8 = 1$	$a = 8$	-
5	$a - 8 = 1$	$a = 9$	-
6	$5a = 25$	$a = 0$	-
7	$5a = 25$	$a = 5$	-
8	$5a = 25$	$a = -5$	-
9	$x/3 = 3$	$x = -9$	-
10	$x/3 = 3$	$x = 0$	-
11	$x/3 = 3$	$x = 9$	-

**Q-2) Verify whether the value in the brackets is the solution of the given equation.**

1.  $x + 5 = 18$  ( $x = 1$ )
2.  $7x + 5 = 17$  ( $x = -2$ )
3.  $7x + 5 = 19$  ( $x = 2$ )
4.  $4y - 3 = 11$  ( $y = 1$ )
5.  $4y - 3 = 12$  ( $y = -4$ )
6.  $4y - 3 = 14$  ( $y = 0$ )

**Q-3) Solve the equation given below by trial and error method;**

1.  $5m + 1 = 11$
2.  $3p - 15 = 6$

**Q-4) Make the questions of the statements given below**

1. The sum of numbers  $p$  and 5 is 10.
2. 6 subtracted from  $q$  is 9.
3. Fifteen times  $x$  is 45.
4. The number  $m$  divided by 8 gives 2.
5. One-third of  $n$  is 9.
6. Ten times  $k$  plus 5 gives you 49.
7. Two-third of a number  $h$  minus 5 gives 7.
8. If you take away 7 from 7 times  $w$ , you get 56.
9. If you add 4 to One-fourth of  $v$ , you get 35.

**Q-5) Write the equations given below in the statement form;**

1.  $x + 6 = 8$
2.  $y - 9 = 10$
3.  $4k = 14$
4.  $\frac{1}{3}x = 9$
5.  $\frac{1}{5}p = 8$
6.  $\frac{1}{2}x + 6 = 9$
7.  $4t + 3 = 27$
8.  $3t - 4 = 25$

**Q-6) Mention the first step you will use to separate the variable and then solve the equations:**

1.  $a + 2 = 0$
2.  $b - 3 = 0$
3.  $p - 2 = 6$
4.  $q + 4 = 2$

**Q-7) Mention the first step you have to use to separate the variable and then solve the given equations;**

1.  $4x = 48$
2.  $y/3 = 5$
3.  $z/8 = 5$
4.  $t/4 = 7/3$
5.  $x/6 = 5/17$
6.  $40m = -5$

**Q-8) Solve the equations given below:**

1.  $20x = 400$
2.  $15y + 15 = 150$
3.  $m/5 = 6$
4.  $-3x/4 = 4$
5.  $4m/5 = 7$
6.  $5n = 25$

**Q-9) Set up the equations and solve them to find the unknown numbers in the cases given below:**

1. If you add 6 to five times a number, it gives 46.
2. Two-third of a number minus 5 gives 11.
3. If you take one-third of a number and add 4 to it, gives 45.
4. When person X subtracts 12 from thrice of a number, it gives 18.
5. When Jenny subtracts twice the number of pens she has from 40, she gets 16.
6. Virat guesses a number. If he adds 18 to that number and then divides the sum by 6, he gets answer 7.
7. Ami guesses a number. If she subtracts 8 from two-third of a number, she gets 6.

**Q-10) Set up the equations and solve them to find the unknown numbers in the cases given below:**

1. If you add 6 to five times a number, it gives 46.
2. Two-third of a number minus 5 gives 11.
3. If you take one-third of a number and add 4 to it, gives 45.
4. When person X subtracts 12 from thrice of a number, it gives 18.
5. When Jenny subtracts twice the number of pens she has from 40, she gets 16.
6. Virat guesses a number. If he adds 18 to that number and then divides the sum by 6, he gets answer 7.
7. Ami guesses a number. If she subtracts 8 from two-third of a number, she gets 6.