

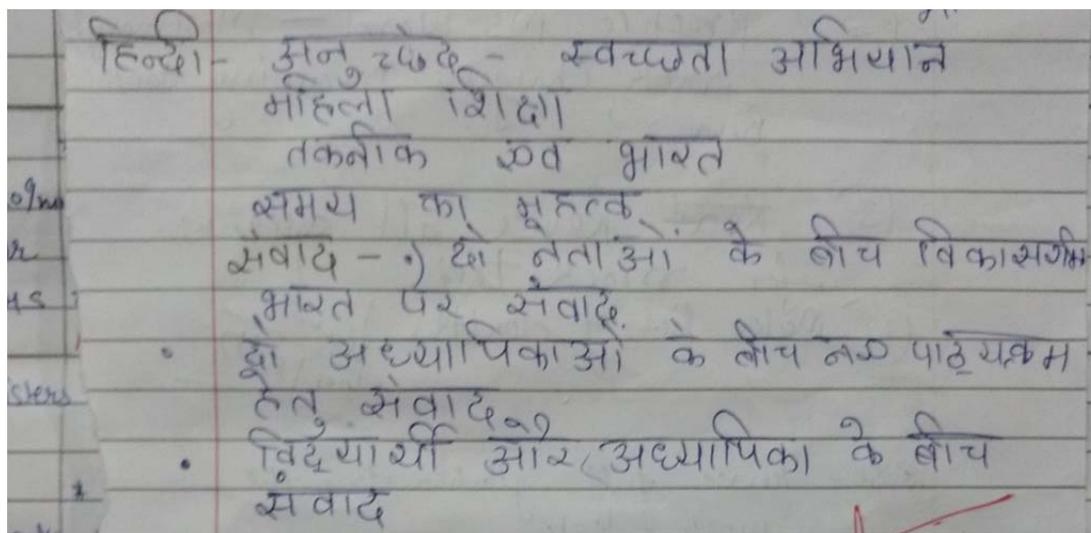
ITBP Public School
WINTER VACATIONS HOMEWORK (2017 – 18)
CLASS IX

ENGLISH

- Revision questions of poem with writing skills

HINDI

- *enclosed attachment



SCIENCE

- Revision question of chapters done in class
- Revise the chapter for test

SOCIAL SCIENCE

- Revise full syllabus for the mock test

COMPUTER

- Read and practice chapter 10 MS PowerPoint or open office impress.
- Practice MS Word- Mail merge, Track changes, Drawing Toolbar.
- Revise whole syllabus for mock test
- Make list of doubts

MATHS

- Complete worksheet in practice notebook
- Revise whole syllabus for mock test
- Worksheets are attached

ITBP PUBLIC SCHOOL, DWARKA
CLASS IX
SUBJECT MATHEMATICS
Work Sheet of Chapter – 4(Linear Equations in two variables)

- Express $5x = -8y$ in the form of $ax + by + c = 0$
- A rabbit covers y metres distance by walking 10 metres in slow motion and the remaining by x jumps, each jump contains 2 metres. Express this information in linear equation.
- Write one solution of $\pi x + y = 5$.
- Find a , if linear equation $3x - ay = 6$ has one solution as $(4, 3)$.
- For what value of k , $x = 2$ and $y = -1$ is a solution of $x + 3y - k = 0$.
- If a line represented by the equation $3x + \alpha y = 8$ passes through $(1, 1)$, then find the value of α .
- At what point the graph of the linear equation $2x - y = 7$ cuts the y -axis.
- Draw the graph using the values of x, y as given in the table:

x	0	5
y	5	0

- Express $2x = 5y$ in the form $ax + by + c = 0$
- Age of x is more than the age of y by 10 years. Express this statement in linear equation.
- When a number is divided by another number, the quotient and remainder obtained are 9 and 1 respectively. Express this information in linear equation.
- In a one-day International Cricket match, played between India and England in Kanpur, two Indian batsmen, Yuvraj Singh and M.S. Dhoni scored 200 in a partnership including 5 extra runs. Express this information in the form of an equation.
- For what value of c , the linear equation $2x + cy = 8$, has equal values of x and y for its solution.
- Find the value of a , if the line $3y = ax + 7$, will pass through:
(i) $(3, 4)$, (ii) $(1, 2)$, (iii) $(2, -3)$
- Find the equations of any two lines passing through the point $(-1, 2)$. How many such lines can be there?
- Write y in terms of x for the equation $x - y + 4 = 0$. Also draw graph of linear equation.
- Draw the graph of linear equation $3x - 7y = 21$. Check whether $(8, 1)$ is a solution of the given equation or not.
- Give the geometric representations of $6x + 24 = 0$ as an equation
(i) in one variable (ii) in two variables
- Adjacent sides of a parallelogram are in the ratio $2 : 3$. If the perimeter of the parallelogram is 60 cm, then find the sides of the parallelogram.
- Find the solution of the linear equation $13x + y = -39$ which represents a point on (i) x -axis (ii) y -axis
- For what value of p ; $x = 2, y = 3$ is a solution of $(p + 1)x - (2p + 3)y - 1 = 0$?
(i) Write the equation.
(ii) How many solutions of this equation are possible?
(iii) Is this line passes through the point $(-2, 3)$? Give justification
- In a class, number of girls is x and that of boys is y . Also, the number of girls is 10 more than the number of boys. Write the given data in the form of a linear equation in two variables. Also, represent it graphically. Find graphically the number of girls, if the number of boys is 20.
- The following observed values of x and y are given by the table:

x	-5	-5	-5	-5	-5	-5	-5	-5	-5
y	0	-1	-2	-3	-4	1	2	3	4

- Draw the graph of this information.
 - Determine the distance of separation between the line formed and the y -axis.

1. Draw a line segment $PQ = 8.4$ cm. Divide it into four equal parts using a ruler and a compass.
2. Construct a triangle ABC in which $BC = 7.5$ cm, $\angle B = 45^\circ$ and $AB - AC = 2.5$ cm.
3. Construct a triangle in which $\angle B = 120^\circ$, $BC = 3$ cm and $KB + KC = 4.7$ cm. Give only justification.
4. Construct a triangle ABC in which $BC = 5.8$ cm, $\angle B = 45^\circ$ and $\angle C = 60^\circ$.
5. Construct angle bisectors of $\angle B$ and $\angle C$ and intersect them at point O. Measure $\angle BOC$.
6. Construct a triangle ABC in which $BC = 8$ cm, $\angle B = 30^\circ$ and $AB - AC = 3.5$ cm.
7. Construct a right triangle in which one side is 3.5 cm and sum of the other side and hypotenuse is 5.5 cm.
8. Construct a triangle ABC in which $BC = 4.5$ cm, $\angle B = 45^\circ$ and $AB - AC = 2.5$ cm.
9. Construct a triangle ABC whose perimeter is 12 cm, $\angle B = 60^\circ$ and $\angle C = 45^\circ$.
10. Find the range of the given data: 25.7, 16.3, 2.8, 21.7, 24.3, 22.7 and 24.9.
11. The mean of x_1 and x_2 is 6 and mean of x_1, x_2, x_3 is 7. Find the value of x_3 .
12. Find the mean of the factors of 24.
13. Find the mean of prime numbers between 20 and 30.
14. If the median of the observations: $x, x + 3, x + 5, x + 7, x + 10$ is 9, find the last observation.
15. The class marks of the distribution are 37, 42, 47, 52 and 57. Determine the class-size and the class limits of the last class mark.
16. The mean of the observations $x, 2x + 1, 2x + 5$ and $2x + 9$ is 30. What is the mean of first three observations?
17. The following observations have been arranged in ascending order. If the median of the data is 23.5, find the value of x .
12, 16, 17, 19, $x, x + 3, 27, 37, 38, 40$
18. Make a frequency distribution table of the following marks scored by 20 students of a class, where class intervals are 4 – 7, 8 – 11 and so on: 5, 11, 6, 8, 10, 20, 23, 14, 19, 22, 7, 11, 10, 9, 12, 26, 24, 14, 7, 8.
19. The marks obtained by 40 students of class IX in a mathematics test are given below:
18, 55, 68, 79, 85, 43, 29, 68, 54, 73, 47, 35, 72, 64, 95, 44, 50, 77, 64, 35, 79, 52, 45, 54, 70, 83, 62, 64, 72, 92, 84, 76, 63, 43, 54, 38, 73, 68, 52, 54.
Prepare a frequency distribution table with class size of 10 marks. Mean of 50 observations was found to be 80.4. But later on, it was discovered that 96 was misread as 69 at one place. Find the correct mean. If in each observation a constant value ' k ' is added, how is the mean affected?
20. The marks of 15 students in an examination out of 10 marks is as follows: 3, 9, 7, 5, 6, 3, 7, 6, 7, 4, 7, 7, 4, 8, 2.
Find the mean, mode and median.