HARI VIDYA BHAWAN

Date – 13/04/2020

WORK SHEET-07
SUBJECT – MATHEMATICS
CLASS – IX
CHAPTER – 02. POLYNOMIALS
SESSION - (2020-21)

Instructions to be followed:

1:- Students do your worksheet in any notebook such as rough notebook, previous year notebook, rough sheets etc. whichever is available at your home. No need to go outside.

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3:- See video links in every worksheet as it will help you to understand the topic.

4:- If you have any query related to worksheet, ask your queries in WhatsApp group between 10:00 am to 12:00 pm in the morning and 4:00 to 6:00 pm in the evening.

5:- All the students must download NCERT app in order to read the chapter and also to write answers of the exercise.

1. Factorize: $8x^3 + 27y^3 + 36x^2 y + 54xy^2$
2. Factorize: each of the following:
    (i) $8a^3 + b^3 + 12a^2 b + 6ab^2$
    (ii) $8a^3 – b^3 – 12a^2 b + 6ab^2$
    (iii) $27 – 125a^3 – 135a + 225a^2$
3. Factorize: $8x^3 + y^3 + 27z^3 – 18xyz$
4. Verify:
    (i) $X^3 + y^3 = (x + y) (x^2 – xy + y^2)$
    (ii) $X^3 – y^3 = (x – y) (x^2 + xy + y^2)$
5. Factorize each of the following:
    (i) $27y^3 + 125z^3$
    (ii) $64^3 – 343n^3$
6. Factorize: $27x^3 + y^3 + z^3 – 9xyz$
7. Verify that: $x^3 + y^3 + z^3 – 3xyz = 1/2(x + y + z) [(x – y)^2 + (y – z)^2 +(z – x)^2]$
8. If $x + y + z = 0$, show that $x^3 + y^3 + z^3 = 3xyz$
9. Without actually calculating the cubes, find the value of each of the following:
    (i) $(–12)^3 + (7)^3 + (5)^3$
    (ii) $(28)^3 + (–15)^3 + (–13)^3$
10. Give possible expressions for the length and breadth of each of the following rectangles, in which their areas are given:
    (i)   Area: $25a^2 – 35a + 12$
    (ii)   Area: $35y^2 + 13y –12$
11. What are the possible expressions for the dimensions of the cuboids whose volumes are given below?
    (i)   Volume: $3x^2 – 12x$
    (ii)   Volume: $12ky^2 + 8ky – 20k$
12. Write a summary on types of polynomials with examples. (**Activity**)
    WATCH video in given link: https://www.youtube.com/watch?v=xmJjQ3KyTdw

NOTE:

- **For question 1&2**: please refer **NCERT TEXTBOOK** example 24 (page no. 48).
  WATCH video on given link: https://www.youtube.com/watch?v=cTE_TrowUZw
- **For question 3**: please refer **NCERT TEXTBOOK** example 25 (page no. 48)
- **For question 4:**
  WATCH video on given link: https://www.youtube.com/watch?v=b9vG0l8Wd0g
- **For question 5:**
  WATCH video on given link: https://www.youtube.com/watch?v=lPpeIW9-bbA
- **For question 6:**
  WATCH video on given link: https://www.youtube.com/watch?v=ONfOMxpp-34
- **For question 7:**
  WATCH video on given link: https://www.youtube.com/watch?v=4PwDdYc7Wm0
- **For question 8:**
  WATCH video on given link: https://www.youtube.com/watch?v=vLmU4mNQwU4
- **For question 9:**
  WATCH video on given link: https://www.youtube.com/watch?v=r8KNDdS3pN0
- **For question 10:**
  WATCH video on given link: https://www.youtube.com/watch?v=yGKdlwlFR6U
- **For question 11:**
  WATCH video on given link: https://www.youtube.com/watch?v=74UfeCYbZWk
- **IMPORTANT**: for above questions use algebraic identities:
  Identity I: $(x + y)^2 = x^2 + 2xy + y^2$
  Identity II: $(x - y)^2 = x^2 - 2xy + y^2$
  Identity III: $x^2 - y^2 = (x + y)(x - y)$
  Identity IV: $(x + a)(x + b) = x^2 + (a + b)x + ab$
  Identity V: $(x + y + z)^2 = x^2 + y^2 + z^2 + 2xy + 2yz + 2zx$
  Identity VI: $(x + y)^3 = x^3 + y^3 + 3xy(x + y)$
  Identity VII: $(x - y)^3 = x^3 - y^3 - 3xy(x - y)$
  Identity VIII: $x^3 + y^3 + z^3 - 3xyz = (x + y + z)(x^2 + y^2 + z^2 - xy - yz - zx)$

HARI VIDYA BHAWAN

SUBJECT- SOCIAL SCIENCE

CLASS – IX

SESSION – 2020 – 21

WORK SHEET -7

Date – 13-04-2020

General Instructions: -

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POL.SCIENCE (CH-1) WHAT IS DEMOCRACY? WHY DEMOCRACY?

MEANING OF DEMOCRACY

- Democracy is a form of government in which the rules are elected by the people.
- Democracy is the best form of government as the rulers are accountable to the people and have to fulfil their needs.

- In democracy people enjoy several rights.
- But in non-democratic government people do not elect their rulers and have no right in decision-making.

<u>FEATURES OF DEMOCRACY</u>

- In democratic countries, rulers are elected by the people.
- There are free and fair election.
- Elections offer a choice and fair opportunity to the people to change the current rulers.
- There is a freedom of expression and people enjoy their fundamental rights.
- The opposition parties are allowed to function freely before and after the elections.
- There is a rule of law because of which a democratic government rules within the limits set by the country's constitutional law and citizen's rights.

<u>More important points to remember</u>

1. Universal Adult Franchise: - Any person who is above 18 yrs. of age has right to vote irrespective of caste,colour,status,religion etc.
2. Democracy :- A form of government in which people themselves elect their rulers.
3. Non-democratic Government:- A form of government in which people do not elect their rulers and have no right in decision-making.

<u>Very short Questions</u>

Q1. Define the term Democracy.
Q2. Mention three features of democracy.
Q3. Give some examples of democratic country and non-democratic country.

Note-

- **To understand the topic "Meaning Of Democracy" watch the video https://youtu.be/FNaB_JfxChs**
- **To understand the topic " Features Of Democracy" watch the video https://youtu.be/rmulK6th_bo**

WORK SHEET-08
SUBJECT- MATHEMATICS
CLASS- X
SESSION - (2020-21)
CHAPTER – 3 (Pair of Linear Equation in Two Variables)

Instructions to be followed :-

1:- Students do your worksheet in any notebook such as rough notebook, previous year notebook, rough sheets etc. whichever is available at your home. No need to go outside.

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1. Find out whether the following pair of linear equations are consistent , or inconsistent
   (a) $3x+2y =1$ (b) $5x+3y=4$ (c) $2x-3y=-6$
   $2x - y =2$ $5x+3y=2$ $4x-6y= -12$

   (d) $4x-2y=1$ (e) $3x-4y=3$ (f) $4x- 2y = 6$
   $3x+2y=2$ $5y-2y = 2$ $2x- y= 3$

2. Solve by substitution method of these equation:
   (a) $3x+2y =1$ (b) $3x-4y=3$ (c) $4x-2y=1$
   $2x - y =2$ $5y-2y = 2$ $3x+2y=2$

3. 3.Solve by elimination method of these equation:
   (a) $3x+2y =1$ (b) $3x-4y=3$ (c) $4x-2y=1$
   $2x - y =2$ $5y-2y = 2$ $3x+2y=2$

4. 4.Activity: if the two lines intersect at a point then the system is consistent and has a unique solution.

5. 5.Activity: if two lines are coincident then the system is consistent and has infinitely many solution.

6. Activity: if the two lines are parallel to each other then the system is inconsistent and has no solution.

Notes:

For any query:

Question 1 to 3

Question 3 to 6

Nature of equation

$a1/a2 \neq b1/b2$ **unique solution-------** *consistent*

$a1/a2 = b1/b2 = c/1/c2$ **many solution--------***consistent*

$a1/a2 = b1/b2 \neq c/1/c2$ **no solution--------** *inconsistent*

Substitution method

Question: Find the value of variables which satisfies the following equation:

$2x + 5y = 20$ and $3x+6y =12$.

Solution:

Using the method of substitution to solve the pair of linear equation, we have:

$2x + 5y = 20$……………………(i)

$3x+6y =12$……………………..(ii)

Multiplying equation (i) by 3 and (ii) by 2, we have:

$6x + 15y = 60$……………………(iii)

$6x+12y = 24$……………………..(iv)

Subtracting equation (iv) from (iii)

$3y = 36$

$\Rightarrow y = 12$

Substituting the value of y in any of the equation (i) or (ii), we have

$2x + 5(12) = 20$

$\Rightarrow x = -20$

Therefore, x=-20 and y =12

Elimination method

$$2x-2y=8$$

$$x+y=1$$

We now wish to add the two equations but it will not result in either *x* or *y* being eliminated. Therefore we must multiply the second equation by 2 on both sides and get:

$$2x-2y=8$$

$$2x+2y=2$$

Now we attempt to add our system of equations. We commence with the *x*-terms on the left, and the *y*-terms thereafter and finally with the numbers on the right side:

$$(2x+2x)+(-2y+2y)=8+2$$

The *y*-terms have now been eliminated and we now have an equation with only one variable:

$$4x=10$$

$$4x=10$$

$$x=10/4$$

$$x=2.5$$

Thereafter, in order to determine the *y*-value we insert *x*=2.5 in one of the equations. We select the first:

$$2*2.5-2y=8$$

$$5-2y=8$$

$$-2y=8-5$$

$$-2y=3$$

$$y=3/-2$$

$$y = -1.5$$

x= 2.5 , y = -1.5 ans

SUBJECT- SOCIAL SCIENCE

CLASS – X

SESSION – 2020 – 21

WORK SHEET -8

Date- 13-04-2020

POL.SCIENCE (CH-1) POWER SHARING

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POWER SHARING IN SRI LANKA

Majoritarianism in Sri Lanka:

- Sri Lankan emerged as an independent country in 1948.
- The leaders of the Sinhala community sought to secure dominance over the government by virtue of their majority.
- In 1956, an Act was passed to recognize Sinhala as the only official language, thus disregarding Tamil.

- A new constitution stipulated that the state shall protect and foster Buddhism.
- All these coming measures, coming one after the other, gradually increased the feeling of alienation among the Sri Lankan Tamils.
- As a result, the relations between the Sinhala and Tamil communities strained over time.
- The Sri Lankan Tamils launched parties and struggles.
- But their demand for more autonomy to provinces populated by the Tamils was repeatedly denied.
- The distrust between the two communities turned into widespread conflict. It soon turned into CIVIL WAR.
- The civil war caused a terrible setback to the social, cultural and economic life of the country.

POWER SHARING IN BELGIUM

Accommodation in Belgium:

- Belgium recognized the existence of regional differences and cultural diversities.
- Between 1970 and 1993, they amended their constitution four times so as to work out an arrangement that would enable everyone to live together within the same country.

Here are some of the elements of the Belgian model:

a. Constitution prescribes that the number of Dutch and French-speaking ministers shall be equal in the central government.
b. Many powers of the central government have been given to states government of the two of the regions of the country.
c. Brussels has separated government in which both the communities have equal representation.

d. Apart from the central and state government, there is a third kind of government. This is community government.

- In Belgium, the leaders have realized that the unity of the country is possible only by respecting the feelings and interests of different communities and regions.
- Sri Lanka shows us a contrasting example. It shows us that if a majority community wants to force its dominance over others and refuses to share power, it can undermine the unity of the country.

VERY SHORT QUESTIONS

Q1. What are the linguistic composition of Belgium?

a) 59% speaks French,40% speaks Dutch and 1% speaks German.
b) 59% speaks Dutch, 40% speaks French and 1% speaks German.
c) 50% speaks Dutch, 49% speaks French and 1% speaks German.
d) 70% speaks Dutch, 25% speaks French and 5% speaks German.

Q2. …………………………. Was started in Sri Lanka due to distrust between the two communities.

Q3. Sri Lanka is facing the problems because of supporting the Tamilians in the state.   True/False

Q4. The feeling of accommodation has led to the problem in Sri Lanka. True/False

Q5. How did the Belgians solve their ethnic problem? Mention two points.

LONG QUESTION

Q6. What was the reason of civil war in Sri Lanka? What was its impact on the country?

Note-

- **To understand the topic "Majoritarianism in Sri Lanka" watch the video** https://youtu.be/1U1emmTR03w

- **To understand the topic "**Accommodation in Belgium" **watch the video** https://youtu.be/7Gfeo0O7wR4

- **For question no 6. Watch video** **https://youtu.be/FNaB_JfxChs**