Maths

1) Make Square root spiral of the following

     i) $\sqrt{7}$ (Group 1)

     ii) $\sqrt{8}$ (Group 2)

     iii) $\sqrt{6}$ (Group 3)

     iv) $\sqrt{10}$ (Group 4)

     v) $\sqrt{11}$ (Group 5)

     vi) $\sqrt{13}$ (Group 6)

     vii) $\sqrt{14}$ (Group 7)

2) Plot the points A(2,1) ,B(3,1) , C(3,3) , (4,3) , E(2.5,5) and F(1,3) and join them in the same sequence. Make its mirror image in the second quadrant.

3) Do the given worksheet in the separate note book.

MCQ's.

1. If $x^{140} + 2x^{151} + k$ is divisible by $x+1$, then find the value of k is   (U)
   (a) 1   (b) -3   (c) 2   (d) -2

2. If $x^{51} + 51$ is divided by $x+1$, the remainder is   (U)
   (a) 0   (b) 1   (c) 49   (d) 50

3. If $x+a$ is a factor of $x^4 - a^2 x^2 + 3x - 6a$, then $a = $?   (U/k)
   (a) 0   (b) -1   (c) 1   (d) 2

4. If $x+2$ is a factor of $x^2 + mx + 14$ then $m = $ (U/k)
   (a) 7   (b) 2   (c) 9   (d) 14

5. If $(x+y)^3 - (x-y)^3 - 6y(x^2 - y^2) = ky^2$ then $k = $ (U)
   (a) 1   (b) 2   (c) 4   (d) 8

6. The expression $x^4 + 4$ can be factorized as   (b)
   (a) $(x^2 + 2x + 2)(x^2 - 2x + 2)$ (c) $(x^2 - 2x - 2)(x^2 - 2x + 2)$
   (b) $(x^2 + 2x + 2)(x^2 + 2x - 2)$ (d) $(x^2 + 2)(x^2 - 2)$

7. $(x-y)(x+y)(x^2 + y^2)(x^4 + y^4)$ is equal to   (U)
   (a) $x^{16} - y^{16}$ (b) $x^8 - y^8$ (c) $x^8 + y^8$ (d) $x^{16} + y^{16}$

8. If $a^{1/3} + b^{1/3} + c^{1/3} = 0$ then   (U)
   (a) $a+b+c = 0$ (b) $(a+b+c)^3 = 27abc$ (c) $a+b+c = 3abc$
   (d) $a^3 + b^3 + c^3 = 0$

Very short answer questions (1 mark)

1. Find the degree of the polynomial $\sqrt{2}$. (K)

2. Find the (i) zero of the zero polynomial. (K)
    (ii) degree of the zero polynomial

3. Give an example of a polynomial. (K)

4. Is $x^2 + \dfrac{4x^{3/2}}{\sqrt{x}}$ a polynomial? Justify. (K)

5. Write the coefficient of x^2 in the expansion of $(x-2)^3$. (K)

6. If $a+b+c=0$, then what is the value of $a^3+b^3+c^3$? (A)

7. Find the zero of the polynomial $p(x) = 2x+3$. (A)

8. If $p(x) = x^2 - 2\sqrt{2}x + 1$, then find the value of $p(2\sqrt{2})$. (A)

9. Without actually calculating the cubes, find the value of $(-14)^3 + (8)^3 + (6)^3$. (A)

- **Short answer questions (2 marks)**

1. If $x+1$ is a factor of the polynomial $2x^2 + kx$, then find the value of k (U)

2. Find the factor of $(25x^2 - 1) + (1+5x)^2$ (K)

3. Factorise $4x^2 + 8x + 3$ (k)

4. Find the coefficient of x in the expansion of $(x+3)^3$ (K)

5. If $a^2 + \dfrac{9}{a^2} = 31$, what is the value of $a - \dfrac{3}{a}$? (K)

6. If $f(x) = x - 9$ then find $f(x) - f(-x)$ (U)

7. Find the factors of $1 - 2x^2$ (K)

8. Find the remainder obtained on dividing $x^6 + x^4 - x^2 + 1$ by ~~x+2~~ $x-2$. (k)

9. Without actually finding $f(3)$, find whether $(x-3)$ is a factor of $f(x) = x^3 + x^2 - 2x + 4$. Justify your answer (U)

10. By remainder theorem, find the remainder when $3x^4 - 4x^3 - 3x - 1$ is divided by $x+2$ (k).

Long answer type Questions (4 marks)

1. If the polynomials $az^3 + 4z^2 + 3z - 4$ and $z^3 - 4z + a$ leave the same remainder when divided by $z - 3$. find the value of a. (U)

2. If both $x - 2$ and $x - \frac{1}{2}$ are factors of $px^2 + 5x + r$, then show that $p = r$. (U)

3. Simplify $(2x - 5y)^3 - (2x + 5y)^3$ (A)

4. Without actual division, prove that $2x^4 - 5x^3 + 2x^2 - x + 2$ is divisible by $x^2 - 3x + 2$. (U)

5. If a, b, c are all non zero and $a + b + c = 0$, prove that $\dfrac{a^2}{bc} + \dfrac{b^2}{ca} + \dfrac{c^2}{ab} = 3$ (A)

6. If $(x + a)$ is a factors of the polynomials $x^2 + px + q$ and $x^2 + mx + n$, prove that $a = \dfrac{n - q}{m - p}$ (U)

7. Simplify
$$\frac{(x^3 - y^3)^3 + (y^3 - z^3)^3 + (z^3 - x^3)^3}{(x - y)^3 + (y - z)^3 + (z - x)^3}$$ (U)

8. factorise:
$$x^3 + 13x^2 + 32x + 20 \qquad (U)$$

9. If $a + b = 11$, $ab = 28$, find the value of $a^3 + b^3$. $\qquad (k/U)$

10. If $3^2 + \dfrac{1}{3^2} = 11$, find the value of

$3^3 - \dfrac{1}{3^3}$, using only positive value of

$3 - \dfrac{1}{3}$. $\qquad (k/U)$

11. find α and β if $(x+1)$ and $(x+2)$ are factors of $x^3 - 3x^2 - 2\alpha x + \beta$ $\qquad (U)$

S.Science
Make a project
Topic Lok Sabha Elections 2019.
Guidelines of the Project
1. The length of the project report will be 6-8 pages .
2. The project report will be handwritten in Activity file.
3. Only coloured pictures should be pasted.
4. Credit will be awarded to original drawing, illustration , facts , data and creative use of materials
5. The project should contain entire election process, i.e.
a. Phase of elections in different states.
b. Campaigning of the top leaders.
c. Counting and results.
d. Important winners and losers.
e. Formation of Government .
f. Seats won by different parties.
g. Ministers and their department.

Science

1. Do "NCERT SCIENCE EXAMPLAR" questions of chapter motion and the chapters taught in biology and chemistry in separate assignment notebook.
2. Do NCERT text book back exercise questions in your class notebook .

Class : IX   Subject: Physics   Assignment 1   Chapter: Motion

1. What is meant by the statement 'Rest and motion are relative terms'? Give example to show it.
2. Explain whether the walls of a classroom are at rest or in motion.
3. Define scalar and vector quantities.
4. Identify the following as scalar or vector quantities:- mass, velocity, speed, length, distance, displacement, temperature, force, weight, power, work and energy.
5. The school of a boy from his home is 1 km to the east. When he reaches back home, he says that he had traveled 2 km distance but his displacement is zero. Justify your answer.
6. Under what condition, the average speed is equal to the magnitude of the average velocity.
7. Can the average speed of a moving body be zero?
8. Can the average velocity of a moving body be zero? State eamples.
9. A car covers a distance of 5 km in 20 mins. Find the velocity of the car in (a) km/min   (b) m/s   (c) m/min   (d) km/hr.
10. a train is moving with a velocity of 45km/hr. calculate the distance traveled by it in 1 hr, 1 min, 1 second.
11. An object P is moving with a constant velocity for 5 mins. Another object Q is moving with changing velocity for 5 mins. Out of these two objects, which one has acceleration? Explain.
12. Can an object be accelerated if it is moving with constant speed? If yes, explain giving examples.
13. (i) When do you say that an object has positive acceleration?
    (ii) When do you say that an object has negative acceleration?
14. State which of the following situations are possible and give an example of each of these:-
    (a) a body moving with constant acceleration but with zero velocity.
    (b) A body moving horizontally with acceleration in vertical direction.
    (c) A body moving with a constant speed in an accelerated motion.
15. What is a reference point?
16. Name the 2 physical quantities which can be obtained from velocity-time graph.
17. An electric train is moving with a velocity of 120km/hr. how much distance will it cover in 30 sec?
18. Give differences between linear motion and circular motion.
19. Velocity time graph of a body is shown in the figure. What are initial and final velocities of the body?
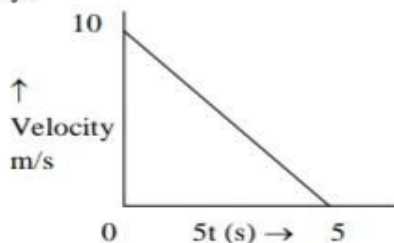
20. A body moves around the sun with constant speed in circular path. Is the motion of the body uniform or accelerated?
21. Name the physical quantity which remains constant during uniform circular motion.
22. Name the physical quantity which changes during uniform circular motion.

<u>English</u>   Note : H.W. must be done in your English Activity file.

Reading Task- Read the chapter "The Little Girl" of Beehive and "The Happy Prince" of Moments of your English text book and write the story of each in about 200-250 words.

Writing Task- It is better to lead a healthy life than wealthy life. Write an article for a newspaper on "Health is Wealth" in about 100- 150 words.

Speaking Task- Poem Recitation on any topic, duration- 3-5 minutes, date of recitation-July 5, 2019

Activity- Take any 10 proverbs and write them in your Activity file with their meanings.

Computer :

Make a collage online on historical monuments in India and mail it on sharmatara59@gmail.com

Art : Make a basket with hot glue using glue gun and paint it with acrylic colours as shown in the picture .

Hindi