

ABM PUBLIC SCHOOL, RIWAZPUR

HOLIDAYS HOMEWORK(2023-24)

CLASS VIII



**HOPE YOUR SUMMER IS FILLED WITH READING,
WRITING, AND MOST OF ALL...FUN!**

SCIENCE

1. Make a 3 D model of evaporation of water in nature.
2. Make a scrap book on the different types of rains, explain about them using the pictures.
3. Collect all the information about the famous scientist of India and write about them and their discoveries in a file using pictures and charts.
4. Activity: collect information about the different methods of producing electricity and write about them on A4 size sheets using colorful pictures.
5. Revise all the chapters done in classroom.

ENGLISH

1. Revise all the chapters for PT-2

*Punjabi teenager wins Diana award

* Introduction a father's letter

*On conduct in company *The golden rules of Conduct

*Three questions

2. Write a POST CARD to your mother telling her about the Yoga Camp that you are attending in the school premises.

3. Write a biography of Mr. APJ Abdul Kalam on A4 sheet.

4. Make a pocket diary consisting PHRASEL VERBS at least 10 of each letter.

5. Complete Grammar Book exercises of lesson – 8,9,10,11,12,13.

6. Complete Exercises of COMPACTA –

- Module 1

- Module 2 Notice writing

- Module 6 – Non finites, prepositions, conjunctions & clauses

- Module 7- synonyms, antonyms & Idioms & phrases

- Module 4 - short stories fill Page No. 217- 240

SOCIAL STUDIES

1. Revise all the chapters for PT-2

*Punjabi teenager wins Diana award

* Introduction a father's letter

*On conduct in company

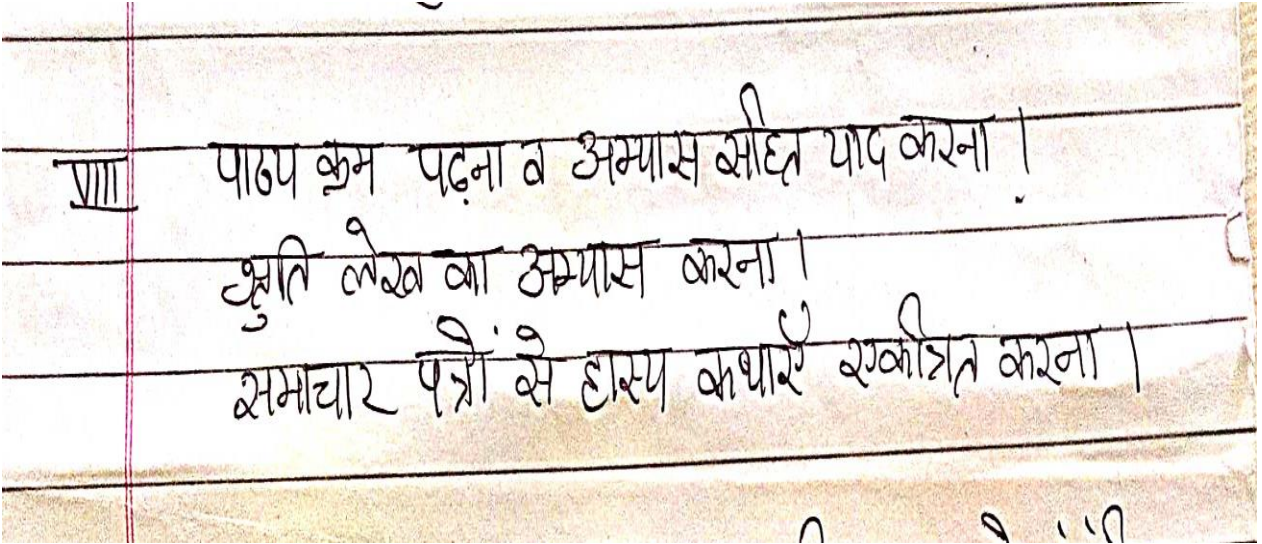
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 - Module 1
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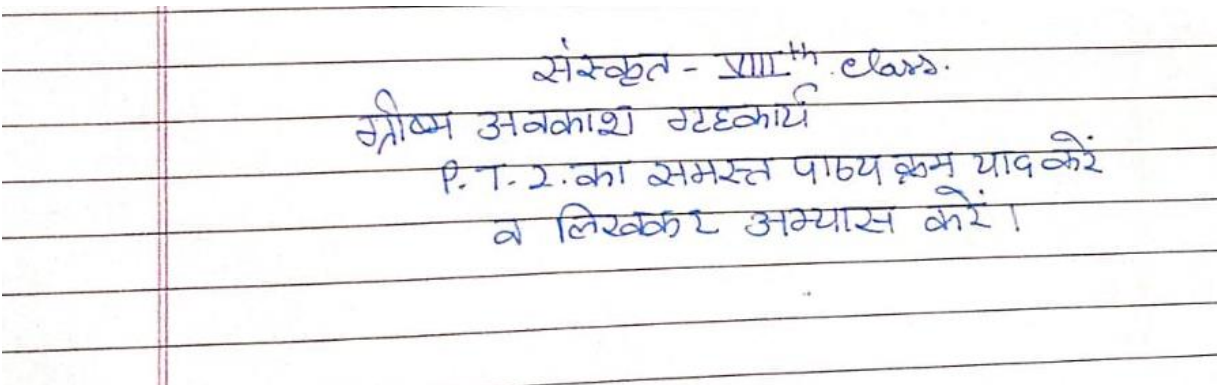
HINDI



COMPUTER

- PROJECT:- 1.Prepare a list showing generations of computers on a chart paper
2. Prepare Web page showing the use of all the html tags and take printout of it.

SANSKRIT





ART AND CRAFT

- 1.) Print a T-shirt by Batik print with help of thread, stones, pulses and grains.
- 2.) Make expression sheet of your own face expression in cartoonist face.
- 3.) Design a monochrome illusion design.
- 4.) Make a beautiful mosaic art with waste CD's and mirrors.
- 5.) Make minimum 2 landscape with watercolor.

A B M PUBLIC SCHOOL
SUBJECT –MATHEMATICS
HOLIDAY HOMEWORK 2023-24

Class :- VIII

Summer Vacation, 2023-24

SUBJECT :	MATHEMATICS
	
Work Specification :	<p>[Part A] Make an animated power point presentation on the topic (1) Squares or (2) fraction and rational numbers or (3) Exponents</p> <p>[Part B] Solve the given worksheet and chapter end exercise all questions of chapter 1 and chapter 2 in your HW notebook.</p>
Materials Required :	Computer (MS-office), HW notebook.
Instructions / Guidelines :	<p><u>General Guidelines for Students:</u></p> <p>[part A]</p> <ul style="list-style-type: none">(i) The power point presentation should not exceed five slides.(ii) In each slide there should be animations. <p>[Part B]</p> <ul style="list-style-type: none">(i) Solve all the questions in your HW notebook.

Worksheet

You might have to deal with fractions that have negative exponents in the numerator and denominator, like $\frac{2^{-4}}{3^{-7}}$. It's useful to be able to change them into fractions with only positive exponents because it's a simpler form. A number with negative exponent in the numerator is equivalent to the same number with positive exponent in the denominator $\Rightarrow 2^{-4} = \frac{2^{-4}}{1} = \frac{1}{2^4}$. A number with a negative exponent in the denominator is equivalent to the same number with positive exponent in the numerator $\Rightarrow \frac{1}{3^{-7}} = \frac{3^7}{1} = 3^7$.

So. 2^{-4} gets moved from the numerator to the denominator, where it is written as 2^4 . $\Rightarrow \frac{2^{-4}}{3^{-7}} = \frac{3^7}{2^4} \leftarrow 3^{-7}$ moved from the denominator and becomes 3^7 in the numerator.

In questions 1 to 33, out of the four options, only one is correct. Write the correct answer.

- In 2^n , n is known as
 - Base
 - Constant
 - x
 - Variable
- For a fixed base, if the exponent decreases by 1, the number becomes
 - One-tenth of the previous number.
 - Ten times of the previous number.
 - Hundredth of the previous number.
 - Hundred times of the previous number.
- 3^{-2} can be written as
 - 3^2
 - $\frac{1}{3^2}$
 - $\frac{1}{3^{-2}}$
 - $-\frac{2}{3}$
- The value of $\frac{1}{4^{-2}}$ is
 - 16
 - 8
 - $\frac{1}{16}$
 - $\frac{1}{8}$

5. The value of $3^5 \div 3^{-6}$ is
 (a) 3^5 (b) 3^{-6} (c) 3^{11} (d) 3^{-11}
6. The value of $\left(\frac{2}{5}\right)^{-2}$ is
 (a) $\frac{4}{5}$ (b) $\frac{4}{25}$ (c) $\frac{25}{4}$ (d) $\frac{5}{2}$
7. The reciprocal of $\left(\frac{2}{5}\right)^{-1}$ is
 (a) $\frac{2}{5}$ (b) $\frac{5}{2}$ (c) $-\frac{5}{2}$ (d) $-\frac{2}{5}$
8. The multiplicative inverse of 10^{-100} is
 (a) 10 (b) 100 (c) 10^{100} (d) 10^{-100}
9. The value of $(-2)^{2 \times 3 - 1}$ is
 (a) 32 (b) 64 (c) -32 (d) -64
10. The value of $\left(-\frac{2}{3}\right)^4$ is equal to
 (a) $\frac{16}{81}$ (b) $\frac{81}{16}$ (c) $-\frac{16}{81}$ (d) $\frac{81}{-16}$

10 in various forms. Note the following:

- Powers of 10 with positive integer exponents involve repeated multiplication by 10.
- Power of 10 with negative integer exponents involve repeated multiplication by $\frac{1}{10}$ (the multiplicative inverse of 10), or repeated division by 10.
- The power of 10 with an exponent of 0 equals 1.

Power	Repeated multiplication	Standard form
10^3	$1 \times 10 \times 10 \times 10$	1000
	$\times 10$	100
10^1	1×10	10
10^0	1	1
10^{-1}	$1 \times \frac{1}{10}$	0.1
10^{-2}	$1 \times \frac{1}{10} \times \frac{1}{10}$	0.01
10^{-3}	$1 \times \frac{1}{10} \times \frac{1}{10} \times \frac{1}{10}$	0.001

11. The multiplicative inverse of $\left(-\frac{5}{9}\right)^{-99}$ is
- (a) $\left(-\frac{5}{9}\right)^{99}$ (b) $\left(\frac{5}{9}\right)^{99}$ (c) $\left(\frac{9}{-5}\right)^{99}$ (d) $\left(\frac{9}{5}\right)^{99}$
12. If x be any non-zero integer and m, n be negative integers, then $x^m \times x^n$ is equal to
- (a) x^m (b) x^{m+n} (c) x^n (d) x^{m-n}
13. If y be any non-zero integer, then y^0 is equal to
- (a) 1 (b) 0 (c) -1 (d) Not defined
14. If x be any non-zero integer, then x^{-1} is equal to
- (a) x (b) $\frac{1}{x}$ (c) $-x$ (d) $\frac{-1}{x}$
15. If x be any integer different from zero and m be any positive integer, then x^{-m} is equal to
- (a) x^m (b) $-x^m$ (c) $\frac{1}{x^m}$ (d) $\frac{-1}{x^m}$
16. If x be any integer different from zero and m, n be any integers, then $(x^m)^n$ is equal to
- (a) x^{m+n} (b) x^{mn} (c) $x^{\frac{m}{n}}$ (d) x^{m-n}
17. Which of the following is equal to $\left(-\frac{3}{4}\right)^{-3}$?
- (a) $\left(\frac{3}{4}\right)^{-3}$ (b) $-\left(\frac{3}{4}\right)^{-3}$ (c) $\left(\frac{4}{3}\right)^3$ (d) $\left(-\frac{4}{3}\right)^3$
18. $\left(-\frac{5}{7}\right)^{-5}$ is equal to
- (a) $\left(\frac{5}{7}\right)^{-5}$ (b) $\left(\frac{5}{7}\right)^5$ (c) $\left(\frac{7}{5}\right)^5$ (d) $-\frac{7}{5}^5$

19. $\left(\frac{-7}{5}\right)^{-1}$ is equal to
 (a) $\frac{5}{7}$ (b) $-\frac{5}{7}$ (c) $\frac{7}{5}$ (d) $\frac{-7}{5}$
20. $(-9)^3 \div (-9)^8$ is equal to
 (a) $(9)^5$ (b) $(9)^{-5}$ (c) $(-9)^5$ (d) $(-9)^{-5}$
21. For a non-zero integer x , $x^7 \div x^{12}$ is equal to
 (a) x^5 (b) x^{19} (c) x^{-5} (d) x^{-19}
22. For a non-zero integer x , $(x^4)^{-3}$ is equal to
 (a) x^{12} (b) x^{-12} (c) x^{64} (d) x^{-64}
23. The value of $(7^{-1} - 8^{-1})^{-1} - (3^{-1} - 4^{-1})^{-1}$ is
 (a) 44 (b) 56 (c) 68 (d) 12
24. The standard form for 0.000064 is
 (a) 64×10^4 (b) 64×10^{-4} (c) 6.4×10^5 (d) 6.4×10^{-5}
25. The standard form for 234000000 is
 (a) 2.34×10^8 (b) 0.234×10^9 (c) 2.34×10^{-8} (d) 0.234×10^{-9}
26. The usual form for 2.03×10^{-5}
 (a) 0.203 (b) 0.00203 (c) 203000 (d) 0.0000203

Explore

Use a pattern to raise 10 to a zero or negative power

Step 1: Copy the table and complete the next two rows by evaluating 10^2 and 10^1 .

Step 2: Look at the rows you have completed. How does the standard form change each time the exponent decreases by 1?

Step 3: Use the pattern you identified in Step 2 to complete the remaining rows in the table.

Power	Standard
10^3	1000
10^2	?
10^1	?
10^0	?
10^{-1}	?
10^{-2}	?
10^{-3}	?

27. $\left(\frac{1}{10}\right)^0$ is equal to

- (a) 0 (b) $\frac{1}{10}$ (c) 1 (d) 10

28. $\left(\frac{3}{4}\right)^5 \div \left(\frac{5}{3}\right)^5$ is equal to

- (a) $\left(\frac{3}{4} \div \frac{5}{3}\right)^5$ (b) $\left(\frac{3}{4} \div \frac{5}{3}\right)^1$ (c) $\left(\frac{3}{4} \div \frac{5}{3}\right)^0$ (d) $\left(\frac{3}{4} \div \frac{5}{3}\right)^{10}$

29. For any two non-zero rational numbers x and y , $x^4 \div y^4$ is equal to

- (a) $(x \div y)^0$ (b) $(x \div y)^1$ (c) $(x \div y)^4$ (d) $(x \div y)^8$

30. For a non-zero rational number p , $p^{13} \div p^8$ is equal to

- (a) p^5 (b) p^{21} (c) p^{-5} (d) p^{-19}

31. For a non-zero rational number z , $(z^{-2})^3$ is equal to

- (a) z^6 (b) z^{-6} (c) z^1 (d) z^4

32. Cube of $-\frac{1}{2}$ is

- (a) $\frac{1}{8}$ (b) $\frac{1}{16}$ (c) $-\frac{1}{8}$ (d) $-\frac{1}{16}$

33. Which of the following is not the reciprocal of $\left(\frac{2}{3}\right)^4$?

- (a) $\left(\frac{3}{2}\right)^4$ (b) $\left(\frac{3}{2}\right)^{-4}$ (c) $\frac{2}{3}^{-4}$ (d) $\frac{3^4}{2^4}$

In questions 34 to 65, fill in the blanks to make the statements true.

34. The multiplicative inverse of 10^{10} is _____.

35. $a^3 \times a^{-10} =$ _____.

Draw Conclusions

Use your observations to complete this exercise.

Write the power of 10 in standard form.

1. 10^4

2. 10^9

3. 10^{-4}

4. 10^{-6}

36. $5^0 =$ _____.
37. $5^5 \times 5^{-5} =$ _____.
38. The value of $\left(\frac{1}{2^3}\right)^2$ is equal to _____.
39. The expression for 8^{-2} as a power with the base 2 is _____.
40. Very small numbers can be expressed in standard form by using _____ exponents.
41. Very large numbers can be expressed in standard form by using _____ exponents.
42. By multiplying $(10)^5$ by $(10)^{-10}$ we get _____.
43. $\left[\left(\frac{2}{13}\right)^{-6} \div \left(\frac{2}{13}\right)^3\right]^3 \times \left(\frac{2}{13}\right)^{-9} =$ _____
44. Find the value $[4^{-1} + 3^{-1} + 6^{-2}]^{-1}$.
45. $[2^{-1} + 3^{-1} + 4^{-1}]^0 =$ _____
46. The standard form of $\left(\frac{1}{100000000}\right)$ is _____.
47. The standard form of 12340000 is _____.
48. The usual form of 3.41×10^6 is _____.
49. The usual form of 2.39461×10^6 is _____.
50. If $36 = 6 \times 6 = 6^2$, then $\frac{1}{36}$ expressed as a power with the base 6 is _____.

Key Concept

Scientific Notation

A number is written in scientific notation if it has the form $c \times 10^n$ where $c > 1$, $c < 10$, and n is an integer.

Standard form	Product form	Scientific notation
325,000	$3.25 \times 100,000$	3.25×10^5
0.0005	5×0.0001	5×10^{-4}

- 86.** The standard form for 203000 is 2.03×10^5
- 87.** The usual form for 2×10^{-2} is not equal to 0.02.
- 88.** The value of 5^{-2} is equal to 25.
- 89.** Large numbers can be expressed in the standard form by using positive exponents.
- 90.** $a^m \times b^m = (ab)^m$
- 91.** Solve the following:
- (i) 100^{-10} (ii) $2^{-2} \times 2^{-3}$ (iii) $\frac{1}{2}^{-2} \div \frac{1}{2}^{-3}$
- 92.** Express $3^{-5} \times 3^{-4}$ as a power of 3 with positive exponent.
- 93.** Express 16^{-2} as a power with the base 2.
- 94.** Express $\frac{27}{64}$ and $\frac{-27}{64}$ as powers of a rational number.
- 95.** Express $\frac{16}{81}$ and $\frac{-16}{81}$ as powers of a rational number.
- 96.** Express as a power of a rational number with negative exponent.

(a) $\left(\left(\frac{-3}{2} \right)^{-2} \right)^{-3}$

(b) $(2^5 \div 2^8) \times 2^{-7}$