



# Anand Niketan

## Maninagar Campus

<b>Grade : VIII</b>	<b>Subject : Maths</b>	<b>Section: _____</b>
<b>Name :</b>	<b>Practice Worksheet</b>	<b>Date:</b>
<b>SYLLABUS</b> CH- 1 Rational number CH-2 Exponents CH-3 Squares and square root CH-4 Cube and cube root CH -6 Algebraic Expressions and Identities CH-7 Factorization CH-18 Introduction to graphs	<b>EMPOWER- I</b>	<b>Empower-1-80 Marks</b> <b>PT-1(Written)-10 Marks</b> <b>Subject Enrichment-5 Marks</b> <b>Notebook Submission-5 Marks</b>

### Q1 solve the following (1 mark each)

1.  $\frac{-3}{4} \div -6$
2. Represent  $\frac{-2}{5}$  on the number line
3. Express  $8^{-3}$  as a power with the base 2
4.  $(\frac{-2}{3})^3 \times (\frac{1}{4})^3$
5. Square of 115 is \_\_\_\_\_
6. Is 726 a perfect cube.
7. Write the coefficient and constant term of  $6x^2y^2 - 5x^2z^2 + 7$
8. Find the product of  $-3x$  and  $2x$
9. Factorize:  $7x + 49$
10.  $(a + b)^2 =$  \_\_\_\_\_
11.  $(2,4)$  \_\_\_\_\_  $(4,2)$  (put  $=, \neq$ )
12. Write abscissa of  $(-9,-45)$

### Q2. Solve the following:( 2 marks each )

1. Add:  $\frac{-1}{12}$  and  $\frac{-2}{15}$ .
2. Find two rational numbers between  $\frac{-1}{2}$  and  $\frac{7}{3}$
3. Find x if  $(3^{x+2} - 9) \div 8 = 9$
4. Express  $7^{-2} \div 3^{-1}$  with positive exponents.
5.  $(1111111)^2 =$  \_\_\_\_\_
6. How many non-perfect square numbers lie between the square of 8 and 9.
7. The area of one face of a cube is 64 sq m. Find its volume.
8.  $\sqrt[3]{27} \times \sqrt[3]{125} =$  \_\_\_\_\_
9. Subtract  $4a - 3ab + 7$  from  $7a + 2ab - 9$
10. Find  $m^2(m + 2n)$

11. Factorize:  $x^8 - 1$
12. In which quadrant will the following points lie:  
(2,3), (-5,4), (6,-9) (-4,-7).
13. Which relation is shown by the graph?

**Q3. Solve the following: (3 marks each)**

1. Simplify:  $(\frac{x^4y^3z^2}{xy^2z^4})^{-2}$
2. By what number should  $(-7)^{-1}$  be divided so that the quotient is  $5^{-1}$ .
3. Write the Pythagorean triplet whose smallest number is 20.
4. Using identities find  $98 \times 102$ .
5. Using identities find  $404^2$
6. Express  $21^2$  as the sum of two consecutive odd natural numbers
7. What is the smallest number by which 1372 may be multiplied so that the product is a perfect cube?
8. Simplify:  $\sqrt[3]{0.125} + \sqrt[3]{0.008} + \sqrt[3]{0.064}$
9. Using prime factorization find the cube root of 91125.
10. If  $x + \frac{1}{x} = 3$  find the value of  $x^2 + \frac{1}{x^2}$
11. If  $x + y = 15$ ,  $xy = 16$ , find the value of  $x^2 + y^2$
12. Factorize:  $3x^2 + 31x + 56$
13. Divide  $15x^4 - 16x^3 + 9x^2 - \frac{10}{3}x + 6$  by  $3x - 2$
14. Draw the graph for the following :

Side of a square(in cm)	0	2	5	6	7	8
Area (in $\text{cm}^2$ )	0	4	25	36	49	64

Is it a linear graph?

**Q4 Solve the following (4 marks each)**

1. Divide the sum of  $\frac{5}{9}$  and  $\frac{-3}{7}$  by the product of  $\frac{-11}{9}$  and  $\frac{-4}{7}$
2. A train covers  $384\frac{4}{5}$  km. in  $4\frac{3}{4}$  hr. find its average speed.
3. In a stack there are five books each of thickness 20 mm. and 5 paper sheet each of thickness 0.016mm. what is the total thickness of the stack?
4. Find the square root of 26569 by long division method
5. Find square root of 27 upto two decimal places.
6. How many cuboids of sides 6cm., 3cm. and 6cm. will be needed to form a cube of side 6cm.
7. Find cube of 54872 by prime factorization method
8. If  $a^2 + b^2 = 100$ ,  $ab = 48$ , find the value of  $a + b$ .
9. Find the product of  $(x - 1)(3x^2 + 2x - 3)$  and verify the result when  $x = -1$
10. Find the value of  $a$  so that  $1 - 7x$  is a factor of  $-14x^3 - 47x^2 - 14x + a$
11. What must be subtracted from  $8a^4 + 14a^3 - 2a^2 + 7a - 8$  so that the resulting polynomial is exactly divisible by  $4a^2 + 3a - 2$  ?
12. A bank gives 10.5% simple interest on deposits of senior citizen. Draw a graph to illustrate the relation between the sum deposited and simple interest earned.

Find the following from the graph

- (i) The annual interest obtained by a senior citizen for an investment of Rs. 5000
- (ii) The investment a senior citizen have to make to get an annual simple interest of Rs. 2625