

WINTER'S HOLIDAYS HW
Subject - mathematics
Class -8th

INSTRUCTIONS:
DO YOUR WORK NEATLY.
DO THE SOLUTIONS ON LOOSE SHEETS.
DON NOT WRITE THE QUESTIONS.

1. Find a rational number between 4 and 5.
2. Find the value of expression $(8^0 - 3^0) \times (8^0 + 3^0)$.
3. What is the sum of first 12 odd numbers? Do without adding.
4. Find the number of digits in the cube root of 216000.
5. Write the degree of the polynomial: $8y^3 - 9y^2 + 8$.
6. Find the value of m for which $5^m \div 5^3 = 5^5$.
7. Find the square root of 363609 by division method.
8. If $x + \frac{1}{x} = 6$, find the value of $x^2 + 1/x^2$.
9. Solve for x: $\frac{2}{6x-19} = \frac{3}{2x-11}$
10. Plot the points A(0,0), B(3,0), C(3,3) and D(0,3) on graph paper. Show that ABCD is a square.
11. The area of a trapezium is 182 cm^2 . Its height is 14 centimetre. The larger parallel side is longer than the other by 16 centimetre . find the length of the parallel sides.
12. A,B and C ,can do a piece of work in 8 days, 12 days and 15 days respectively. how long will they take to finish if they work together?
13. Rashmi lends an amount of ₹10,000 to her friend Seema for 2 years at the rate of 5% compounded annually. find the amount she receives after 2 years.
14. One of the two digits of a 2-digit number is 3 times the other digit. if you interchange the digits of this 2-digit number and add the resulting number to the original number, you get 88. what is the original number?
15. Divide the sum of $-3/4$ and $5/6$ by their product.
16. The volume Of a cubical box is 2744000 m^3 . find the length of each side of the box. Find the length of each side of the box.
17. The adjacent sides of a rectangle are $6p^3 + 7p^2q^2 + pq$ and $7pq - 5p^3 + 9p^2q^2$. Find its perimeter.



18. Factorise the numerator and find the quotient

$$m^2 - 10m - 11 / m - 11$$

19. Evaluate by using identity:

A. 105^2

B. $72^2 - 18^2$

20. During our sale, a shop offered a discount of 10% on the marked prices of all the items. What would a customer have to pay for a pair of jeans marked at ₹1450 and two shirts marked at ₹850 each?

21. Factorise using identity:

A. $p^2 + 2pq + q^2 - x^2$.

B. $49a^2 - 225b^2$

22. Is 1922 a perfect square? if not, then find the smallest whole number by which 1922 should be multiplied so as to get a perfect square number, And also, find the square root of the square number obtained.

23. I. Fill in the blanks:

A. According lateral with 2 pairs of adjacent equal sides is called

B. The sum of the interior angles of a regular octagon is

II. the angles of a quadrilateral are in the ratio 1:2:2:4. Find the measure of each angle.

24. An iron pipe 20 centimetre long has external diameter equal to 25 centimetre. If the thickness of the pipe is one centimetre, find the whole surface area of the pipe.

25. The side of an equilateral triangle is 4 centimetre, its perimeter is 12 centimetre.

plot a graph of perimeter against length of side with the side increasing at interval of 2 centimetre.

show on your graph:

A. What will the perimeter be when the side is 7 centimetre?

B. what will be the side be when the perimeter is 15 centimetre?

26. There are 1800 creatures in a zoo as per list given below:

Beast animals	Other land animals	Birds	Water animals	Reptiles
300	800	350	250	100



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Represent the above data using a pie chart.

27. One card is drawn at random from a well shuffled deck of 52 playing cards. Find the probability that card drawn is

- A. A king
- B. A red queen
- C. A diamond Jack
- D. A number card
- E. A spade's ace

28. (i). Factorise: $49y^2 - 121x^2$

(i) If $x + \frac{1}{x} = 4$, evaluate $x^2 + \frac{1}{x^2}$.

(ii) divide $(x^2 + 7x + 12)$ by $(x + 4)$.

iii) express 3.02×10^{-6} in usual form.

29. The area of a trapezium is 540 meters square,. If the ratio of parallel sides is 7:5 and the distance between them is 18 cm, find the length of parallel sides.

30. Solve and find value of x.

$$\frac{x+3}{3} - \frac{x-2}{2} = 1. \text{ Hence , find p, if } \frac{1}{x} + p = 1.$$

