CHAITANYA CENTRAL SCHOOL
Yenugonda, Mahabubnagar
Assignment – 2023-24

Class:IX Date:24-04-2023
Subject: Mathematics

1.Find the value of $\frac{15}{19} \times \frac{5}{6} + \frac{15}{19} \times \left(\frac{-4}{9}\right)$

2. Find the multiplicative inverse of $\frac{-4}{11} \times \frac{22}{-6}$.

3. Find the value of x in $\left(\frac{4}{15}\right)^{3} \times \left(\frac{4}{15}\right)^{-6} = \left(\frac{4}{15}\right)^{2x+1}$

4. If $\left(\frac{x}{y}\right) = \left(\frac{2}{3}\right)^{-4} \times \left(\frac{3}{5}\right)^{-4}$ then find $\left(\frac{x}{y}\right)^{-2}$

5. Find the value of $\sqrt{23\frac{394}{729}}$

6. Find the value of $\sqrt[3]{2197\ X\ 3375}$

7. If $x - \frac{1}{x} = 6$ find the value of $x^2 + \frac{1}{x^2}$ and $x^4 + \frac{1}{x^4}$

8. Multiply $(16m^2 + n^2 - 8mn)$ $(4m-n)$ and verify the result when m=-1 and n=2.

9. Solve the following equation. $3x + \frac{3}{2} = 2x + 1$

10. A number when added to its one fourth gives 40. Find the number.

11. Write two conditions which are sufficient to ensure that a quadrilateral is a rectangle.

12. The opposite angles of a parallelogram ABCD are given as $A = (3x + 20^0)$ and $C = (2x + 70^0)$. Find measure of each angle.

13. If the sum of the angles of a polygon is 900, how many sides does the polygon have?

14. The angles of a quadrilateral are in the ratio 1:3:7:9. Find the measure of each angle.

15. Find the area of a Rhombus whose diagonals are 22cm and 26cm.

16. What is the formulae to find the area of a trapezium? The area of a parallelogram is $44cm^2$ and its base is 8cm, find its altitude.

17. Find the volume of a cube of edge 2a cm.

18. Find the volume of cube whose total surface area is 216 $cm^2$.

19. Write all formula for TSA, CSA and volume of cube, cuboid and cylinder.

20. What is probability? A coin is rolled once then what is the probability of getting heads?

21. Express $\left(\frac{-5}{8}\right)^{-3}$ as a rational number.

22. Write any 5 laws of exponents.

23. For what value of x the statement $-1\frac{1}{6} \times 1\frac{2}{9} = \frac{11}{9} \times x$ is true?

24. Using prime factorization, find the square root of 42875.

25. Factorise by splitting the middle term $12x^2 - x - 35$.

26. Expand $(a+b)^2$, $(a-b)^2$ and $a^2 - b^2$.

27. A bat is bought for Rs.120 and sold for Rs.105. Find loss percentage.

28. Define following term with diagrams.

    (a) parallel lines (b) intersecting lines (c) line segment (d) Ray

29. Define the following

    (a) Linear pair (b) Vertically opposite angles (c) complimentary angles (d) supplementary angles

30. What is Data? Give an example.

31. What is frequency? Prepare frequency distribution table for the following data.

    The weights of 20 students in a class are :

    35kg, 23kg, 35kg, 33kg, 32kg, 28kg, 38kg, 42kg, 40kg, 30kg,

    31kg, 27kg, 26kg, 25kg, 38kg, 42kg, 41kg, 30kg, 28kg, 40kg

    (Class intervals are 20-25, 25-30.....)

32. If a dozen oranges cost Rs.45, how many oranges can be bought for Rs.75?

33. A shirt can be stitched using $2\frac{1}{4}$ m of cloth. How many shirts can stitched using $31\frac{1}{2}$ m of cloth?

34. What is the least number by which we should divide 1568 to make it a perfect square?

35. Find the area of a rectangle whose sides are 15 pq and 12 $pq^2$.

36. Ronit is now 32 years old and his son is 7 years old. In how many years will Ronit be twice as old as his son?

37. The maximum temperature of five days of a week are given below:

| Day | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|
| Temperature ($^0$c) | 38 | 42 | 35 | 36 | 40 |

Represent above data in the graph. (Bargraph)

38. What is a quadrilateral? Name different types of quadrilaterals. Write the properties of parallelogram.

39. A box contains 4 green balls, 6 red balls and 5 blue balls. A ball is selected at random from the box. Find the probability of getting a red ball.

40. Find (a) 13% of 300 km (b) 16% of 625 litres. ::The End::