

Atomic energy central school 3

Rawatbhata

CLASS 08 - MATHEMATICS

Confidence

Time Allowed: 3 hours

Maximum Marks: 80

Section A

- Which of the following is equal to $\left(-\frac{3}{4}\right)^{-3}$? [1]
 - $\left(\frac{3}{4}\right)^{-3}$
 - $\left(\frac{3}{4}\right)^3$
 - $-\left(\frac{3}{4}\right)^{-3}$
 - $\left(-\frac{4}{3}\right)^3$
- What is the surface area of the drawing box, if its length is 16 cm, width 6 cm, and height 3 cm? [1]
 - 162 cm^2
 - 25 cm^2
 - 200 cm^2
 - 324 cm^2
- Divide: $(10x - 25) \div 5$ [1]
 - $2x - 5$
 - 5
 - $2x$
 - None of these*
- Which of the following is a monomial? [1]
 - $4x + y^2$
 - $2x + 7y$
 - $7z$
 - $4x + 3y + 5$
- Each side of a square piece of tissue paper is 3 centimeters long. What is the tissue paper's area? [1]
 - 9 cm^2
 - 12 cm^2
 - 15 cm^2
 - 27 cm^2
- Factorise: $125x^3y^5z^4 - 5xy^3z^6$ [1]
 - $(5xy - z)(5xy + z)$
 - $5xy^3z^4(5xy - z)$
 - $5xy^3z^4(5xy - z)(5xy + z)$
 - $5xy^3z^4(5xy + z)$
- Which of the following is quotient obtained on dividing $-18xyz^2$ by $-3xz$? [1]
 - $-6yz$
 - $6xy^2$
 - $6xy$
 - $6Yz$
- Evaluate : 8^{-3} [1]
 - $\frac{1}{125}$
 - $\frac{1}{216}$
 - $\frac{1}{343}$
 - $\frac{1}{512}$
- The standard form for 234000000 is [1]

a) 0.234×10^{-9}

b) 2.34×10^8

c) 2.34×10^{-8}

d) 0.234×10^9

10. Find the ratio of 5 km to 10 m. [1]

a) It is 1 : 500

b) It is 20 : 1

c) It is 500 : 1

d) It is 1 : 20

Section B

11. Divide as directed: $26xy(x + 5)(y - 4) \div 13x(y - 4)$ [2]

12. A train is moving at a uniform speed of 75 km/hour. How far will it travel in 20 minutes? [2]

13. If $\frac{5^m \times 5^3 \times 5^{-2}}{5^{-5}} = 5^{12}$, then find m. [2]

14. Find the area of rhombus whose side is 6 cm and whose altitude is 4 cm. If one of its diagonals is 8 cm long, find the length of the other diagonal. [2]

15. Find the areas of rectangle with the monomials as their lengths and breadths respectively: $(20x^2, 5y^2)$ [2]

16. Find the Selling Price(SP) of an article, if Marked Price (MP) = ₹1300 and discount = 1.5% [2]

17. Factorise: $49p^2 - 36$ [2]

18. A swimming pool can be filled in 4 hours by 8 pumps of the same type. How many such pumps are required, if the pool is to be filled in $2\frac{2}{3}$ hours? [2]

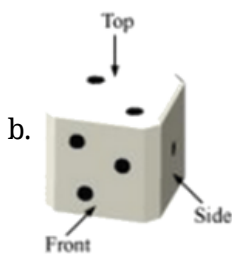
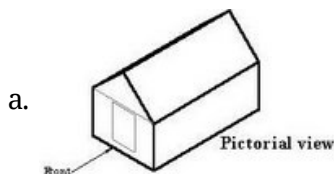
19. Simplify: $\left(\left(\frac{-2}{3}\right)^{-2}\right)^3 \times \left(\frac{1}{3}\right)^{-4} \times 3^{-1} \times \frac{1}{6}$ [2]

20. Using identity, evaluate: 297×303 [2]

Section C

21. If Roma had ₹ 1200 left after spending 60% of her money, how much did she have in the beginning? [3]

22. Draw Front view, Side view, Top view of the following images. [3]



23. Solve for x: [3]

$$3^{2x+3} = 27^{x+4}$$

24. The lateral surface area of a hollow cylinder is 4224 cm^2 . It is cut along its height and formed a rectangular sheet of width 33 cm. Find the perimeter of rectangular sheet? [3]

25. The sides of rectangle are $3a^2 + 2b$ and $5a^2 - 4b$. Find its perimeter. [3]

26. Work out the division: $9x^2y^2(3z - 24) \div 27xy(z - 8)$ [3]

27. Replace A and B by suitable numerals? [3]

$$\begin{array}{r} 3 \ A \\ + 2 \ 7 \\ \hline B \ 2 \end{array}$$

28. Two persons could fit new windows in a house in 3 days. One of the persons fell ill before the work started. How long would the job take now? [3]

29. Plot the points on a graph sheet. Verify if they lie on a line K(2, 3), L(5, 3), M(5, 5), N(2, 5) [3]

30. By selling an air cooler for ₹6800, Mahesh lost 15%. For what price should he sell it to get a profit of 10%? [3]

Section D

31. The simple interest on a sum of money for 3 years at $\frac{25}{4}\%$ per annum is ₹. 2,400. What will be the compound interest on that sum at the same rate for the same period? [4]

32. [4]

(a) $(5p^2 - 25p + 20) / (p - 1)$

(b) $(x^2 - 2xy + y^2) - z^2$

33. Simplify. $(3^{-5} \times 10^{-5} \times 125) \div (5^{-7} \times 6^{-5})$ [4]

34. The areas of two circles are in the ratio 49:64. Find the ratio of their circumference. [4]

35. The given graph describes the distances of a car from a city P at different times when it is travelling from City P to City Q, which are 350 km apart. Study the graph and answer the following: [4]

- i. What information is given on the two axes?
- ii. From where and when did the car begin its journey?
- iii. How far did the car go in the first hour?
- iv. How far did the car go during (i) the 2nd hour? (ii) the 3rd hour?

