Brain International School

Vikas Puri, New Delhi

ASSIGNMENT NO. 5

SUBJECT: MATHEMATICS **CLASS-VIII** **NOVEMBER,2025**

CH-9 MENSURATION

TICK THE CORRECT ANSWER: (1-4)

1. What will be the change in the volume of a cube when its side becomes ten times the original side?

   (a) Volume becomes 1000 times.

   (b) Volume becomes 10 times.

   (c) Volume becomes 100 times.

   (d) Volume becomes 1 / 1000 times

2. The height of a cylinder whose radius is 7 cm and the total surface area is 968 cm^2 is:

   (a) 15 cm (b) 17 cm (c) 19 cm (d) 21 cm

3. The height of a cuboid whose volume is 275 cm^3 and base area is 25 cm^2 is:

   (a) 10 cm (b) 11 cm (c) 12 cm (d) 13 cm

4. In the below question, a statement of Assertion (A) is followed by a statement of Reason (R). Mark the correct choice as

Assertion (A): The total surface area of cuboid of length l, breadth b, height h is

$2(lb + bh + hl)$.

Reason(R): Area is the quantity that expresses the extent of a two dimensional region,

shape in the plane.

(a) Both A and R are true and R is the correct explanation of A

(b) Both A and R are true but R is not the correct explanation of A

(c) A is true but R is false

(d) A is false but R is true

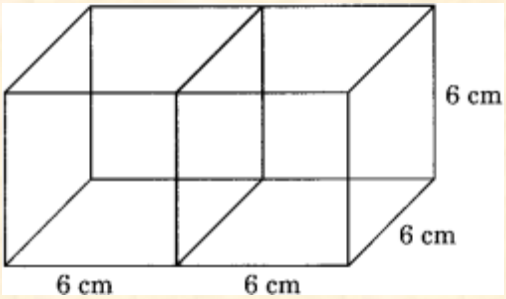
5. The length and breadth of a rectangle are in the ratio 4 : 3. If its perimeter is 154 cm, find its length and breadth.

6. If the lengths of the diagonals of a rhombus are 16 cm and 12 cm, find its area.

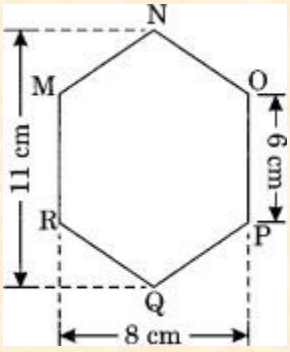
7. The area of a rhombus is 16 cm^2. If the length of one diagonal is 4 cm, find the length of the other diagonal.

8. The volume of a box is 13400 cm^3. The area of its base is 670 cm^2. Find the height of the box.

9. Two cubes are joined end to end. Find the volume of the resulting cuboid, if each side of the cubes is 6 cm.



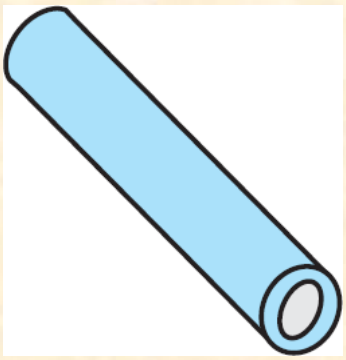
10. MNOPQR is a hexagon of side 6 cm each. Find the area of the given hexagon in two different methods.



11. The area of a trapezium is 400 cm^2, the distance between the parallel sides is 16 cm. If one of the parallel sides is 20 cm, find the length of the other side.

12. <u>CASE STUDY BASED QUESTION</u>

Savitri had to make a model of a cylindrical kaleidoscope for her science project. She wanted to use chart paper to make the curved surface of the kaleidoscope. (see the below figure). She wanted to make a kaleidoscope of length 25 cm with a 7cm diameter? You may take $\pi = 22/7$



Answer the following questions based on the above information:

(i) Find the radius of the kaleidoscope.

(ii) Find the area of chart paper required.

(iii) Find the cost of chart paper if the rate of chart paper is Rs. 2 per $100cm^2$.

(iv) Find the volume of the kaleidoscope.

CH-10 EXPONENTS AND POWERS

TICK THE CORRECT ANSWER: (1-3)

1. Which one of the following is greater?

(a) 2^3 (b) 3^2 (c) 1^8 (d) 4^2

2. The value of 2^8 is:

(a) 128 (b)256 (c)512 (d) 16

3. In the below question, a statement of Assertion (A) is followed by a statement of Reason (R). Mark the correct choice as

Assertion (A) –In 10^2, the exponent is 2.

Reason (R) –An exponent refers to the number of times a number is multiplied by itself.

a) Both A and R are true and R is the correct explanation of A

b) Both A and R are true but R is not the correct explanation of A

c) A is true but R is false

d) A is false but R is true

4. Find the multiplicative inverse of:

(i) 3^{-3}

(ii) 10^{-10}

5. Simplify and write in exponential form.

(i) $(-5)^2 \times (-5)^{-3}$

(ii) $(3^6 \div 3^8)^4 \times 3^{-4}$

(iii) $12^7 \times 3^{-3}$

6. Express 8^{-4} as a power with the base 2.

7. Find the value of k if $(-2)^{k+1} \times (-2)^3 = (-2)^7$

8. Simplify the following:

(i) $\left\{\left(\frac{1}{4}\right)^{-3} - \left(\frac{1}{3}\right)^{-3}\right\} \div \left(\frac{1}{4}\right)^{-2}$

(ii) $\left(\frac{2}{3}\right)^{-6} \times \left(\frac{3}{2}\right)^{-4}$

9. Write the following in standard form

(i) 0 .0035

(ii) 365.05

10.Find the value of P if

$$\left(\frac{2}{5}\right)^{3} \times \left(\frac{2}{5}\right)^{-6} = \left(\frac{2}{5}\right)^{2P-1}$$

11. If $\left(\frac{x}{y}\right) = \left(\frac{3}{2}\right)^{-2} \div \left(\frac{3}{7}\right)^{0}$, find the value of $\left(\frac{x}{y}\right)^{-3}$.

12. <u>CASE STUDY BASED QUESTION</u>

In a class science teacher give some information to all students about Solar system in following manner.

Distance of the earth from the sun = 149600000 km

Mass of the earth = 597000000000000000000000 kg

Mass of Mars = 642000000000000000000000000000 kg

Mass of the sun = 199000000000000000000000000000000 kg

Mass of the moon = 73500000000000000000000 kg

Now on the basis of the given information, she asked them few questions:

a) Write distance of the earth from the sun in standard form.

b) Write mass of the sun in standard notation?

c) Calculate the total mass of the earth and the moon.