

WORKSHEET (CH. 11, 12 & 13)

Class - VIII

Q1. The area of a trapezium is 1440 cm^2 . If the lengths of its parallel sides are 54.6 cm and 35.4 cm , find the distance between them.

Q2. Mitesh wants to buy a trapezium shaped field. Its side along the river is parallel to and twice the side along the road. If the area of this field is 10500 m^2 and the perpendicular distance between the two parallel sides is 100 m , find the length of the side along the river.

Q3. True and False

(i) Amount of region occupied by a solid is called its surface area

(ii) The areas of any two faces of a cube are equal.

(iii) The areas of two opposite faces of a cuboid are equal.

(iv) 2.5 litres is equal to $0.0025 \text{ cubic meters}$

(v) Ratio of area of a circle to the area of a square whose side equals radius of circle is $1: \pi$.

(vi) Very small numbers can be expressed in standard form using negative exponents.

(vii) $a^p \times b^q = (ab)^{pq}$

(viii) $.00567 = 5.67 \times 10^{-3}$

(ix) $\frac{1}{(8)^{-3}} = 2^0$

(x) $4^0 = 4$

(xi) $-1^3 = 1$

(xii) The multiplicative inverse of -2^{-2} is 2^2

Q4. Fill in the blanks

(i) Curved surface area of a cylinder of radius $2b$ and height $2a$ is _____.

(ii) Volume of a cylinder with radius p and height q is _____.

(iii) $6.55 \text{ m}^2 = \text{_____ cm}^2$

(iv) The volume of a cylinder becomes _____ the original volume if its radius becomes doubles of the original radius and height becomes half of its original values

(v) The surface area of a cylinder which exactly fits in a cube of side b is _____

(vi) The multiplicative inverse of 3^{-2} is _____

(vii) $9^7 \times 3^{-2} = \text{_____}$

(viii) $.0000067$ in exponent form _____

(ix) Very large numbers can be expressed in standard form by using _____ exponents

(x) $5^0 = \text{_____}$

(xi) $(-1)^{100} = \text{_____}$

(xii) The value of $[4^{-1} + 3^{-1} + 6^{-2}]^{-1}$ is _____.

Q5. Match the column

| Column A | Column B |
|--|--------------------------|
| (p) Area of the triangle of Base 8 cm and altitude 12 cm | (i) 24 cm ² |
| (q) Surface area of the cube of side 2 cm | (ii) 64 cm ² |
| (r) Area of the parallelogram of the base of 4 cm and height 16 cm | (iii) 28 cm ² |
| (s) Area of the trapezium of parallel sides 6 and 8 cm and height 4 cm | (iv) 48 cm ² |

Q6. Evaluate

(i) 2^{-2} (ii) $(-2)^{-2}$ (iii) $(3/2)^{-5}$

Q7. Simplify and express the result in power notation with positive exponent.

(i) $(-2)^5 \div (-2)^4$ (ii) $(1/2)^2 \times (2/5)^2$ (iii) $(-5)^2 \times (3/5)$

Q8. Find the value of.

(i) $(4^0 + 4^{-1}) \times 2^2$ (ii) $(3^{-1} \times 9^{-1}) \div 3^{-2}$ (iii) $(11^{-1} + 12^{-1} + 13^{-1})^0$

Q 9. Find the value of x here

$(\frac{11}{9})^3 \times (\frac{9}{11})^6 = (\frac{11}{9})^{2x-1}$

Q10. Express the following numbers in standard form.

- (i) 0.0000000015
 (ii) 0.00000001425
 (iii) 102000000000000000

Q11. Express the following numbers in usual form.

- (i) 34.02×10^{-5}
 (ii) 9.5×10^5
 (iii) 9×10^{-4}
 (iv) 2.0001×10^8

Q 12. Find the Multiplicative inverse of

- (i) 3^{25}
 (ii) 4^{-3}
 (iii) $(\frac{2}{3})^{-2}$

Q12. The Principal sanctioned a certain amount to the librarian to purchase some Mathematics books for the school library. She could buy 80 books costing Rs 90 each from the local book seller. There she approached to the publisher who offered her a 20% discount, Find the number of copies of Mathematics books which she could buy from the publisher for the sanctioned money.

Q13. A mixture of paint is prepared by mixing 1 part of green pigments with 6 parts of the base. In the following table, find the parts of base needed to be added.

| | | | | |
|-------------------------------|---|-------|-------|-------|
| Parts of green pigment | 1 | 4 | 5 | 6 |
| Parts of base | 6 | x_1 | x_2 | x_3 |

Q14. Jagmeet has a road map with a scale of 1 cm = 20 km. He drives on a road for 72 km. What would be his distance covered in the map?

Q15. In a PG House, the food provision for 20 persons is for 10 days. How long would the food provision last if there were 5 more persons in that PG house?