Revision : 2

1. Fill in the blanks :

(1) If the digit at unit place of a number is 1, 4, 5, 6, 9 or 0 then its digit at unit place of its cube will be ....., ..., ..., ..., ... or ..... .

(2) The perfect cube number obtained by cubing 13 is ..... .

(3) $\left(\frac{-5}{9}\right)$ + ... = $\left(\frac{-5}{9}\right)$

(4) $\frac{1}{4} \times \left(\frac{1}{3} \times \frac{1}{9}\right) = \left(\frac{1}{4} \times \frac{1}{3}\right) \times$ .....

(5) $x^2 \times x^{\cdots} = x^7$

(6) $\frac{7^4}{7^{\cdots}} = \frac{1}{7^8}$

(7) E = $\{x / x$ is a natural number less than 4$\}$ and F = $\{1, 2, 3\}$. These both sets are ..... sets.

(8) $(-4b) \times (2a + 3b)$ = ...

(9) $(xy - 3)(xy + 4)$ = ...

(10) ..... pairs of opposite sides and ..... pairs of adjacent sides of a quadrilateral are obtained.

(11) If diagonals of □ ABCD do not intersect each other, then □ ABCD is ..... quadrilateral.

(12) In □ PQRS the opposite side of $\overline{PQ}$ is ..... .

(13) 1 m^2 = ... cm^2

(14) The area of base of a cylinder = ...

2. Answer the following questions with correct alternative from the given alternatives :

(1) 3..... $\{1, 2, 3, 4\}$

(a) $\subset$ (b) $\notin$ (c) $\in$ (d) $\not\subset$

(2) 0 ..... $\{x / x$ is a factor of 5$\}$

(a) $\subset$ (b) $\notin$ (c) $\in$ (d) $\not\subset$

(3) $\{2\}$ ..... $\{x / x$ is an even number between 1 and 10$\}$

(a) $\subset$ (b) $\notin$ (c) $\in$ (d) $\not\subset$

(4) Number of ..... vertices of a quadrilateral are colinear.

(a) one (b) two (c) three (d) none

(5) In $\square$KJRM the adjacent side of $\overline{RM}$ is ..... .

(a) $\overline{KJ}$ (b) $\overline{KM}$ (c) $\overline{KR}$ (d) $\overline{JK}$

(6) $\square$PQRS can also be written as ..... .

(a) $\square$PQSR (b) $\square$PSQR (c) $\square$QRSP (d) $\square$QPRS

(7) The formula to find total surface area of a closed cylinder is ..... .

(a) πr^2 (b) $2\pi r(h + r)$ (c) $2\pi rh$ (d) $\pi r^2 h$

(8) The formula to find volume of one rupee coin is ..... .

(a) $2\pi r$ (b) πr^2 (c) $l \times b \times h$ (d) $\pi r^2 h$

(9) The volume of cylinder with diameter 10 cm and height 4 cm is ..... cm^3.

(a) 100π (b) 20π (c) 40π (d) 400π

3. Write the digit at the unit place of the number which is obtained after cubing each of the following numbers :

(1) 51 (2) 22 (3) 43 (4) 114

(5) 25 (6) 227 (7) 36 (8) 88

4. Write opposite number and reciprocal number of given numbers :

(1) $\frac{4}{7}$ (2) 0.1 (3) $\frac{-3}{11}$ (4) 19

5. Find the value :

(1) $(5)^{-4}$ (2) $\left[\frac{27}{64}\right]^{\frac{1}{3}}$ (3) $\sqrt[3]{\frac{8}{343}}$ (4) $\left[\frac{2}{3}\right]^2$

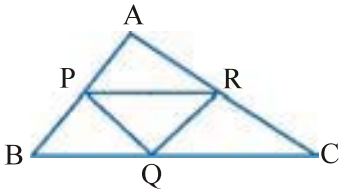
6. Show the following groups by listing and the property method :

No.	Group	Listing method	Property method
1.	Group of odd numbers between 11 to 20		
2.	Group of alphabets of word AHMEDABAD		
3.	Group of factors of 16		
4.	Group of perfect square integers between 1 to 40		

7. The diameter of base of a cylinder is 60 cm and height is 50 cm, then find its curved surface area. ($\pi = 3.14$)

8. The height of a water tank is 7 m. In this maximum 5,50,000 litres of water is filled, then find the diameter of this tank.

9. How many quadrilaterals are made in the given figure ? Name all the quadrilaterals so formed.



10. The pair of one of the opposite angles of a quadrilateral is supplementary. The measure of one of the remaining angle is 120°, then find the measure of angle opposite to that angle.

11. The measure of four angles of a quadrilateral are $(x + 10)$, $(x - 10)$, $(x - 25)$, $(x + 25)$ respectively. Then find the measure of all these angles.

12. Expand :

(1) $(-2b) \times (8a + 9b)$ (2) $(2a + 3b)(5a - 4b)$ (3) $(2m + 3)(2m - 3)$

(4) $(2a + 3b)^2$ (5) $(10 - y)^2$ (6) $(5m - 3)(5m + 3)$

(7) $(xy - 3)(xy + 4)$ (8) $(7 + 2mn)^2$

Answers

1. (1) 1, 4, 5, 6, 9, 0 (2) 2197 (3) 0 (4) $\frac{1}{9}$ (5) 5 (6) 12

(7) Equal (8) $-8ab - 12b^2$ (9) $x^2y^2 + xy - 12$ (10) Two, Four (11) Convex

(12) $\overline{RS}$ (13) 10,000 (14) πr^2

2. (1) c (2) b (3) a (4) c (5) b (6) c (7) b (8) d (9) a

3. (1) 1 (2) 8 (3) 7 (4) 4 (5) 5 (6) 3 (7) 6 (8) 2

4. (1) $\frac{-4}{7}, \frac{7}{4}$ (2) $(-0.1), 10$ (3) $\frac{3}{11}, \frac{-11}{3}$ (4) $(-19), \frac{1}{19}$

5. (1) $\frac{1}{625}$ (2) $\frac{3}{4}$ (3) $\frac{2}{7}$ (4) $\frac{4}{9}$

6.

No.	Listing method	Property method
1.	A = {13, 15, 17, 19}	A = {x / x is odd numbers between 11 to 20}
2.	B = {A, H, M, E, D, B}	B = {x / x is alphabets of word 'AHMEDABAD'}
3.	C = {1, 2, 4, 8, 16}	C = {x / x is factors of 16}
4.	D = {4, 9, 16, 25, 36}	D = {x / x is a perfect square integers between 1 to 40}

7. 9420 cm^2 **8.** 10 m

9. Six quadrilaterals are formed : □ PBQR, □ ABQR, □ APQR, □ PBCR, □ PQCR, □ APQC **10.** 60° **11.** 100°, 80°, 65°, 115°

12. (1) $-16ab - 18b^2$ (2) $10a^2 + 7ab - 12b^2$ (3) $4m^2 - 9$
(4) $4a^2 + 12ab + 9b^2$ (5) $100 - 20y + y^2$ (6) $25m^2 - 9$
(7) $x^2y^2 + xy - 12$ (8) $49 + 28mn + 4m^2n^2$

Set Theory Symbols :

Symbol	Symbol Name	Meaning / Definition	Example
{}	Set	A collection of elements	A = {3,7,9,14}, B = {9,14,28}
A ∩ B	Intersection	Objects that belong to set A and set B	A ∩ B = {9,14}
A ∪ B	Union	Objects that belong to set A or set B	A ∪ B = {3,7,9,14,28}
A ⊂ B	Proper subset / strict subset	Subset has less elements than the set	{9,14} ⊂ {9,14,28}
A ⊄ B	Not subset	Left set not a subset of right set	{9,66} ⊄ {9,14,28}
A = B	Equality	Both sets have the same members	A = {3,9,14}, B = {3,9,14}, A = B
a ∈ A	Element of	Set membership	A = {3,9,14}, 3 ∈ A