

Chapter 1

Things to Remember

Prime No

1	(11)	21	(31)	(41)	51	(61)	71	81	91
(2)	12	22	32	42	52	62	72	82	92
(3)	(13)	(23)	33	(43)	(53)	63	(73)	(83)	93
4	14	24	34	44	54	64	74	84	94
(5)	15	25	35	45	55	65	75	85	95
6	16	26	36	46	56	66	76	86	96
(7)	(17)	27	(37)	(47)	57	(67)	77	87	(97)
8	18	28	38	48	58	68	78	88	98
(9)	(19)	(29)	39	49	(59)	69	(79)	(89)	99
10	20	30	40	50	60	70	80	90	100

Formula of Two Dimensional Figures



Area of Square = a^2

Perimeter of Square = $4a$



Area of circle = πr^2

Perimeter of circle = $2\pi r$



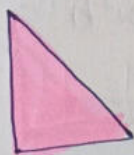
Area of Rectangle = $L \times B$

Perimeter of Rectangle = $2(L+B)$



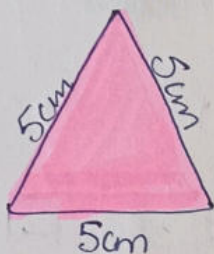
Area of Triangle = $\frac{1}{2}(b \times h)$

Perimeter of Triangle = $a+b+c$



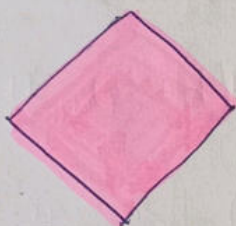
Area of ~~Eq.~~ Right Angle Triangle = $\frac{1}{2} (b \times h)$

Perimeter of Right Angle Triangle = $b + \text{hypotenuse} + h$



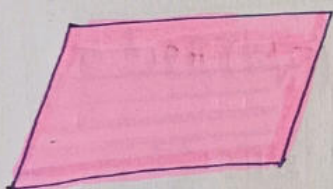
Area of Equilateral Triangle = $\frac{\sqrt{3}}{4} \times a^2$

Perimeter of Equilateral Triangle = $3a$



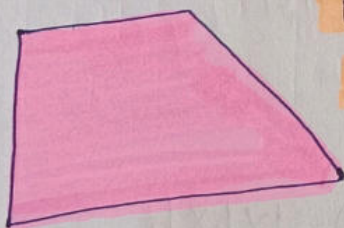
Area of Rhombus = $\frac{1}{2} \times d_1 \times d_2$

Perimeter of Rhombus = $4 \times \text{side}$



Area of Parallelogram = $b \times h$

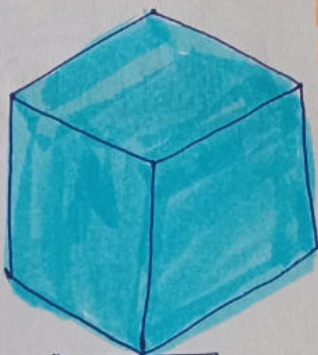
Perimeter of Parallelogram = $2(L + B)$



Area of Trapezium = $\frac{1}{2} h (a + b)$

Perimeter of Trapezium = $a + b + c + d$

Formula for Three dimensional figures :-



[Cube]

Volume (Cubic units) = a^3

Curved or lateral Surface area (Square units) = $4a^2$

Total Surface area (Square unit) = $6a^2$

Cone

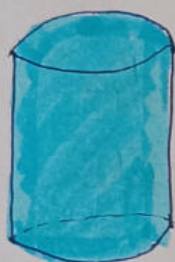


$$\text{Volume (Cubic units)} = \frac{1}{3}\pi r^2 h$$

$$\text{Curved or lateral Surface area (Square units)} = \pi r l$$

$$\text{Total Surface area (Square unit)} = \pi r (r + l)$$

Cylinder



$$\text{Volume (Cubic units)} = \pi r^2 h$$

$$\text{Curved or lateral Surface area (Square units)} = 2\pi r h$$

$$\text{Total Surface area (Square unit)} = 2\pi r (h + r)$$

Hemisphere

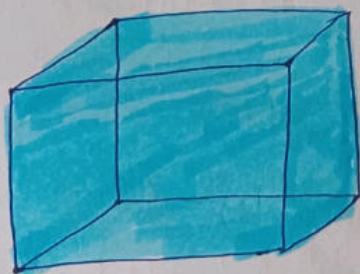


$$\text{Volume (Cubic units)} = \frac{2}{3}\pi r^3$$

$$\text{Curved lateral Surface area (Square units)} = 2\pi r^2$$

$$\text{Total surface area (Square unit)} = 3\pi r^2$$

Cuboid



$$\text{Volume (Cubic units)} = l \times b \times h$$

$$\text{Curved or lateral Surface area (Square units)} = 2h(l + b)$$

$$\text{Total surface area (Square unit)} = 2(lb + bh + hl)$$

Sphere



$$\text{Volume (Cubic units)} = \left(\frac{4}{3}\right) \pi r^3$$

$$\text{Curved or lateral Surface area (Square units)} = 4\pi r^2$$

$$\text{Total surface area (Square unit)} = 4\pi r^2$$

Divisibility Rule

- Divisibility by 1!

Any integer is divisible by 1.

- Divisibility by 2!

A number is divisible by 2, if its last digit is even (0, 2, 4, 6, 8)

for eg:- 74, 64, 78, 56 etc.

- Divisibility by 3!

A number is divisible by 3, if the sum of its digits is divisible by 3.

for eg: 849 is divisible by 3, because sum of digit $8+4+9=21$.

And 21 is divisible by 3

Sphere



$$\text{Volume (Cubic units)} = \left(\frac{4}{3}\right) \pi r^3$$

$$\text{Curved or lateral Surface area (Square units)} = 4\pi r^2$$

$$\text{Total surface area (Square unit)} = 4\pi r^2$$

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• Divisibility by 4:

A number is divisible by 4 if the number formed by its last two digits is divisible by 4.

eg 8864, here 64 is divisible by 4, Hence the whole no is divisible by 4.

• Divisibility by 5:

A number is divisible by 5 if its last digit is either 0 or 5.

for eg 60, 75, 95, 105, 200, 675 etc.

• Divisibility by 6:

A number is divisible by 6, if it is divisible by both 2 & 3.

for eg 762; here this no is even and divisible by 3, also hence it is divisible by 6.

• Divisibility by 7:

→ Take the last digit; double it.

→ subtract that doubled no from the rest of the digits.

→ If the ~~digits~~ Results is divisible by 7 (or becomes 0 or -7) then the original no is divisible by 7.

Check 207 is divisible by 7

- last digit = 7
- double = 14
- Remaining no = 20
- subtract from = $20 - 14 = 6$

No divisible by 7

eg 6 check if 203 is divisible by 7

- last digit = 3
- Double it = 6
- Remaining no = 20
- New Subtract = $20 - 6 = 14$
- 14 is divisible by 7 → so 203 is divisible by 7.