

CSAT

CSAT SYLLABUS

	MATHS	REASONING	READING COMPREHENSION
Average	25-30 Q`s	20-25 Q`s	25-30 Q`s
2020	42 Q`s	13 Q`s	25 Q`s

REASONING (GMA, AR, LR)

SL. NO.	SESSION NAME	SESSION DETAILS
1	Reas-1	Series & Coding-Decoding
2	Reas-2	Blood Relation & Direction
3	Reas-3	Clock & Calendar
4	Reas-4	Dice & Cubes
5	Reas-5	Application of Sets
6	Reas-6	Sitting Arrangement & Ranking
7	Reas-7	Puzzles (Table Formation)
		Analytical Reasoning
8	Reas-8	(No. of Triangles, Squares, Rectangles)
9	Reas-9	Non-Verbal Reasoning
10	Reas-10	Syllogism
11	Reas-11	Statement- Assumption , Strong & Weak Argument
12	Reas-12	Course of Action , Cause & Effect

MATHS (BASIC NUMERACY)

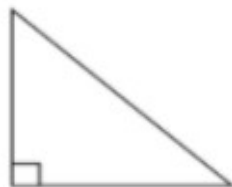
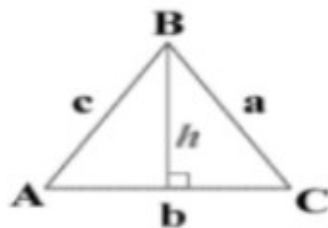
SL NO.	SESSION NAME	SESSION DETAILS
1.	M-1	NUMBER SYSTEM Part-1
2.	M-2	NUMBER SYSTEM Part-2
3.	M-3	LCM & HCF
4.	M-4	Percentage
5.	M-5	Profit-Loss & Discount
6.	M-6	Ratio & Proportion
7.	M-7	Average & Age
8.	M-8	DI &
9.	M-9	Time, Speed & Distance
10	M-10	Time & Work
11	M-11	Mensuration
12	M-12	Permutation & Combination
13	M-13	Probability

MENSURATION

MENSURATION

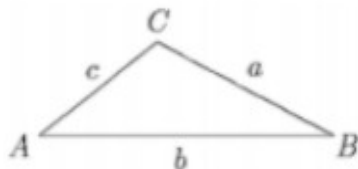
Basic Formulae of Mensuration

Right angle Triangle



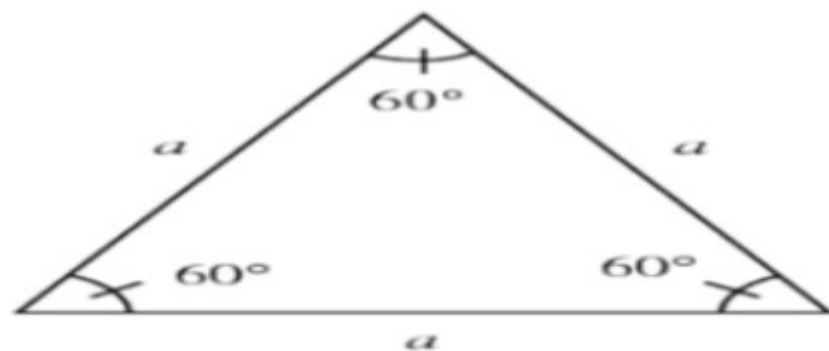
- Area of right angle triangle = $\frac{1}{2} \times \text{base} \times \text{altitude}$

Scalene Triangle:



- Area of scalene triangle = $\sqrt{s(s - a)(s - b)(s - c)}$
Where $2s = a + b + c = \text{perimeter of the } \triangle ABC.$
- Perimeter of triangle = $a + b + c$

Equilateral triangle:



- Area of equilateral triangle = $\frac{\sqrt{3}}{4} a^2$
- Perimeter of triangle = $3a$

RECTANGLE:



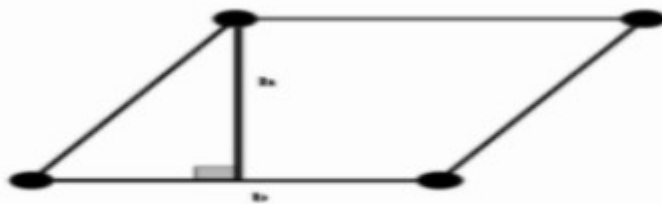
- Area of rectangle = Length x Breadth
- Perimeter of rectangle = $2L + 2B$

SQUARE:



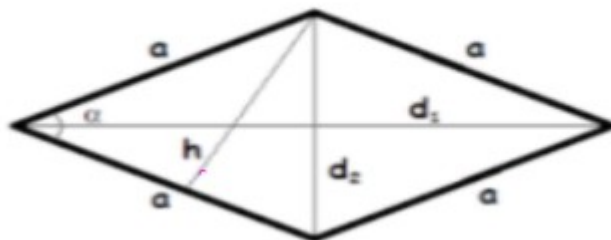
- Area of square = a^2
- Perimeter of square = $4a$

Parallelogram:



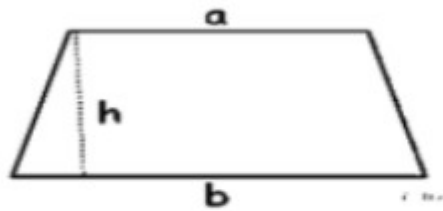
- Area of parallelogram = Base x Height

Rhombus:

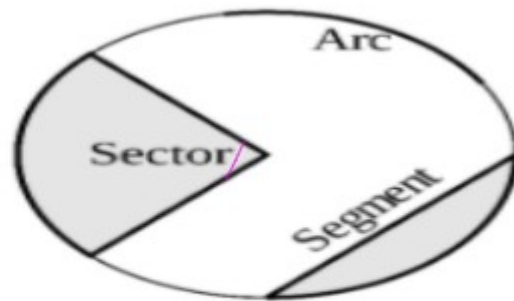
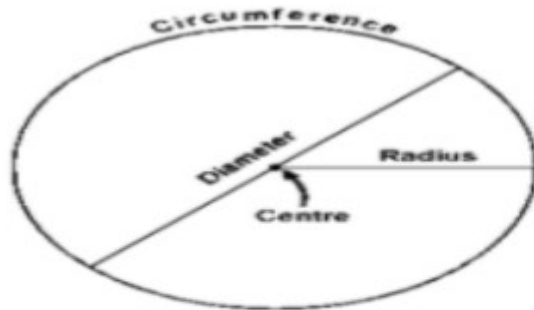


- Area of rhombus = Base x height

Trapezium:

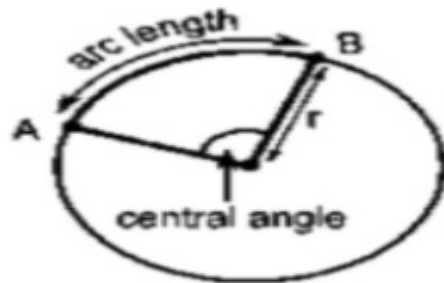


- Area of trapezium = $\frac{1}{2} \times (a + b) \times h$



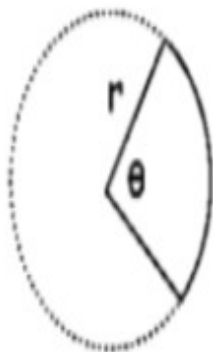
- Diameter = $2r$
- Circumference = $2\pi r$
- Area of circle = πr^2

Length of arc:



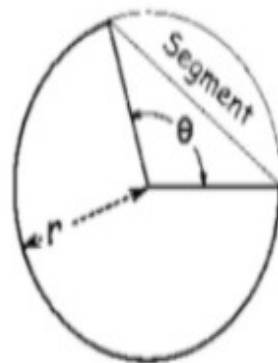
- Length of arc = $\frac{\theta}{360^\circ} \times 2\pi r$

Area of Sector :



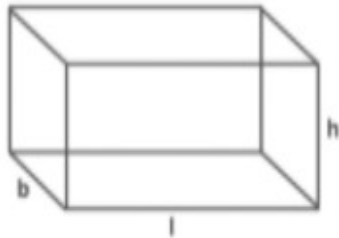
- Area of sector $= \frac{\theta}{360^\circ} \times \pi r^2$

Area of Segment:



- Area of segment = Area of sector - Area of triangle
$$= \frac{\theta}{360^\circ} \times \pi r^2 - \frac{1}{2} \times r^2 \times \sin \theta$$

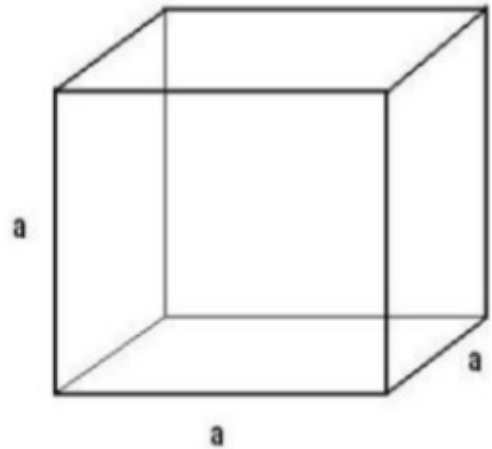
CUBOID



If L, B and H be the length, breadth and height respectively of a cuboid then,

- Volume = LBH
- Curved Surface area = $2(BH + LH)$
- Total Surface area = $2(LB + BH + LH)$

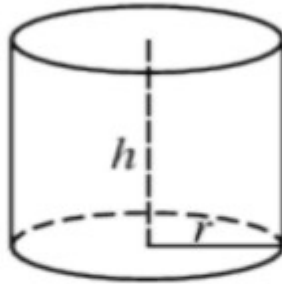
CUBE



If the length of the side of a cube be a then,

- Volume = a^3
- Curved Surface area = $4a^2$
- Total Surface area = $6a^2$

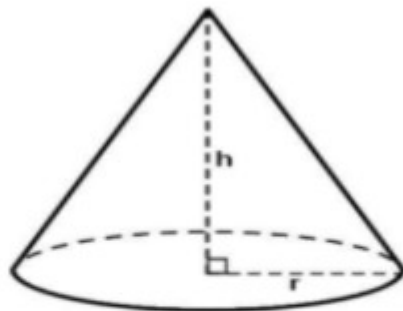
CYLINDER



Let r be the radius of the base and h be the height of a right circular cylinder ; then

- Volume = $\pi r^2 h$
- Curved Surface area = $2\pi r h$
- Total Surface area = $2\pi r h + 2\pi r^2$

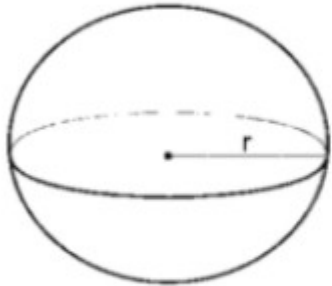
CONE



Let r be the radius of the base, h the height and L the slant height of a right circular cone ; then

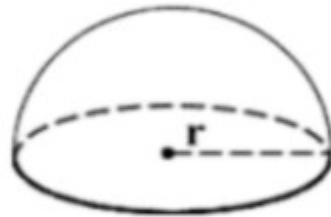
- Volume = $\frac{1}{3} \pi r^2 h$
- Curved Surface area = $\pi r L$
- Total Surface area = $\pi r L + \pi r^2$

SPHERE

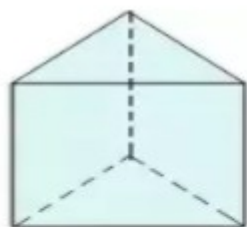


- Volume = $\frac{4}{3} \pi r^3$
- Curved Surface area = $4 \pi r^2$
- Total Surface area = $4 \pi r^2$

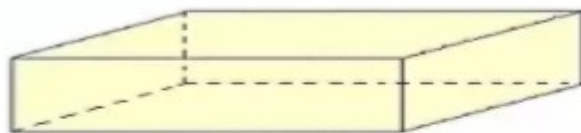
HEMI-SPHERE



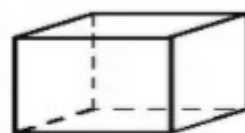
- Volume = $\frac{2}{3} \pi r^3$
- Curved Surface area = $2 \pi r^2$
- Total Surface area = $3 \pi r^2$



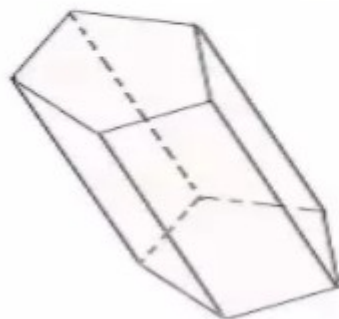
Triangular Prism



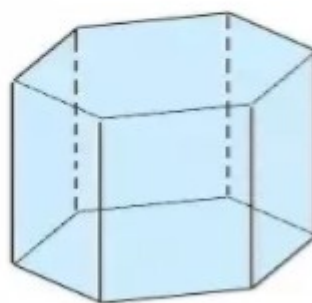
Rectangular Prism



Cube



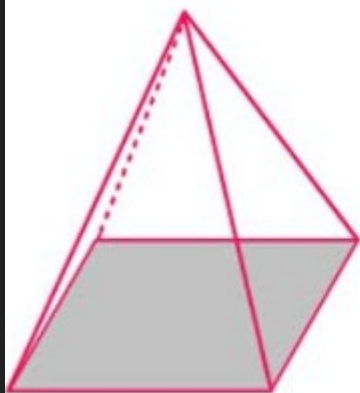
Pentagonal Prism



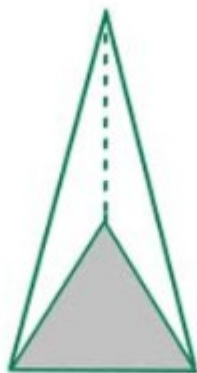
Hexagonal Prism

PRISM

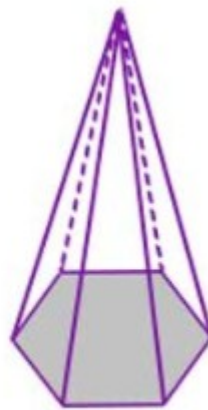
- Volume of Prism = Area of base \times height
- Curved Surface Area = Perimeter of the base \times height
- Total Surface Area = Curved surface area + $2 \times$ Area of its base



SQUARE PYRAMID



TRIANGULAR PYRAMID



HEXAGONAL PYRAMID

PYRAMID

- Volume of pyramid = $\frac{1}{3} \times \text{Area of the base} \times \text{height}$
- Curved Surface area = $\frac{1}{2} \times \text{Perimeter of the base} \times \text{Slant height};$
- Total surface area = Curved surface area + Area of its base

1Q: One side of a rectangle is 5cm and its diagonal is 13 cm. Find the area of rectangle.

- (a) 50 cm²
- (b) 60 cm²
- (c) 72 cm²
- (d) 40 cm²

2Q: The length of rectangle is three times of breadth. If perimeter of rectangle is 64cm. Find the length of rectangle.

- (a) 28 cm
- (b) 15 cm
- (c) 24 cm
- (d) 22 cm

3Q: Find the ratio of area of square to area of square drawn on its diagonal.

- (a) 1 : 4
- (b) 1 : 2
- (c) 2 : 1
- (d) None

4Q: The integral base of an isosceles triangle can be whose area is 60cm^2 and the length of one of the equal sides is 13cm :

- (a) 20cm
- (b) 10cm
- (c) 16cm
- (d) Data insufficient

5Q: The side of rhombus is 5cm and its one diagonal is 8cm. Find the area of rhombus.

- (a) 20cm
- (b) 30cm
- (c) 16cm
- (d) 24cm

6Q: The expenses of carpeting a half of the floor were Rs. 759, but if the length had been 6m less than it was, the expenses would have been Rs. 561. What is the length?

- (a) 21 m
- (b) 23 m
- (c) 45 m
- (d) 27 m

7Q: The area of a hexagon whose one side is 6 m, is:

- (a) 6 m²
- (b) 54 m²
- (c) 42 m²
- (d) 24 m²

8Q: Three cubes of metal, whose edges are 2 cm, 3 cm and 4 cm respectively are melted to form a new cube. What is the surface area of the new cube?

- (a) 216 cm²
- (b) 56 cm²
- (c) 36 cm²
- (d) None of these

9Q: The radii of two cylinders are in the ratio of 3 : 5 and their heights are in the ratio 4 : 3. The ratio of their volumes is:

- (a) 12 : 25
- (b) 13 : 25
- (c) 4 : 5
- (d) 5 : 4

10Q: How many metres of cloth 5 m wide will be required to make a conical tent with base radius of 7 m and height is 24 m?

- (a) 110 m
- (b) 55 m
- (c) 77 m
- (d) 220 m

11Q: The volume of square pyramid of side 5 cm and height 12 cm is :

- (a) 200 cm³
- (b) 100 cm³
- (c) 300 cm³
- (d) 400 cm³

12Q: The length of longest pole that can be placed on the floor of a room is 12 m and the length of longest pole that can be placed in the room is 15m. The height of the room is:

- (a) 3 m
- (b) 6 m
- (c) 9 m
- (d) None of these

13Q: Water flows at the rate of 5 m per min from a cylindrical pipe 8 mm in diameter. How long will it take to fill up a conical vessel whose radius is 12 cm and depth 35 cm?

- (a) 315 sec
- (b) 365 sec
- (c) 5 min
- (d) None of these

CSAT QUESTIONS

CSAT-2020

14Q: If 1 litre of water weighs 1 kg, then how many cubic millimetres of water will weigh 0.1 gm?

- (a) 1
- b) 10
- (c) 100
- (d) 1000

CSAT-2020

15Q: Consider the following statements: 1. The minimum number of points of intersection of a square and a circle is 2. 2. The maximum number of points of intersection of a square and circle is 8. Which of the above statements is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

CSAT-2018

16Q: Twelve equal squares are placed to fit in a rectangle of diagonal 5 cm. There are three rows containing four squares each. No gaps are left between adjacent squares. What is the area of each square?

- (a) $\frac{5}{7}$ sq cm
- (b) $\frac{7}{5}$ sq cm
- (c) 1 sq cm
- (d) $\frac{25}{12}$ sq cm

CSAT-2018

17Q: There are 24 equally spaced points lying on the circumference of a circle. What is the maximum number of equilateral triangles that can be drawn by taking sets of three points as the vertices?

- (a) 4
- (b) 6
- (c) 8
- (d) 12

CSAT-2017

18Q: Two walls and a ceiling of a room meet at right angles at a point P.

A fly is in the air 1 m from one wall, 8 m from the other wall and 9 m from the point P. How many meters is the fly from the ceiling?

- (a) 4
- (b) 6
- (c) 12
- (d) 15

CSAT-2016

19Q: An agricultural field is in the form of a rectangle having length X_1 meters and breadth X_2 meters (X_1 and X_2 are variable). If $X_1 + X_2 = 40$ meters, then the area of the agricultural field will not exceed which one of the following values?

- (a) 400 sq m
- (b) 300 sq m
- (c) 200 sq m
- (d) 80 sq m

CSAT-2016

20Q: A cylindrical overhead tank of radius 2 m and height 7 m is to be filled from an underground tank of size 5.5m x 4m x 6m. How much portion of the underground tank is still filled with water after filling the overhead tank completely?

- (a) $\frac{1}{3}$
- (b) $\frac{1}{2}$
- (c) $\frac{1}{4}$
- (d) $\frac{1}{6}$

ALL THE BEST