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# Mathematics (Senior) Charts, School Education

## Product Image

## MENSURATION

A graphical list of the formulas for measurement concepts

<div style="text-align: center;"> <p><b>Rectangle</b></p> </div> <p>Perimeter = <math>2(\text{Length} + \text{Breadth}) = 2(l + b)</math>            Area = <math>\text{Length} \times \text{Breadth} = lb</math></p>	<div style="text-align: center;"> <p><b>Cube</b></p> </div> <p>Lateral Surface Area = <math>4 \times \text{Side} \times \text{Side} = 4s^2</math>            Total Surface Area = <math>6 \times \text{Side} \times \text{Side} = 6s^2</math>            Volume = <math>\text{Side} \times \text{Side} \times \text{Side} = s^3</math></p>
<div style="text-align: center;"> <p><b>Circle</b></p> <p><math>(\pi = 3.14)</math></p> </div> <p>Area = <math>\pi \text{ radius}^2 = \pi r^2</math>            Diameter = <math>2 \text{ radius} = 2r</math>            Circumference = <math>\pi \text{ diameter} = \pi d</math>            Circumference = <math>2\pi \text{ radius} = 2\pi r</math></p>	<div style="text-align: center;"> <p><b>Rectangular Solid (Cuboid)</b></p> </div> <p>Lateral Surface Area = <math>2h(l + b)</math>            Total Surface Area = <math>2(lb + bh + hl)</math>            Volume = <math>\text{Length} \times \text{Breadth} \times \text{Height} = lbh</math></p>
<div style="text-align: center;"> <p><b>Triangle</b></p> </div> <p>Area = <math>1/2 \times \text{Base} \times \text{Height} = 1/2 bh</math>            Perimeter = <math>\text{Sum of Three Sides} = a + b + c</math></p>	<div style="text-align: center;"> <p><b>Cylinder</b></p> <p><math>(\pi = 3.14, r = \text{radius}, h = \text{height})</math></p> </div> <p>L. Surface Area = <math>2\pi rh</math>            T. Surface Area = <math>2\pi r(h + r)</math>            Volume = <math>\pi r^2 h</math></p>
<div style="text-align: center;"> <p><b>Trapezium</b></p> </div> <p>Perimeter = <math>\text{Sum of All Sides} = a + b + c + d</math>            Area = <math>1/2 (\text{Sum of Parallel Sides}) \times \text{Height}</math>            Area = <math>1/2 (a + b) h</math></p>	<div style="text-align: center;"> <p><b>Cone</b></p> <p><math>(\pi = 3.14, r = \text{radius})</math>  <math>(l = \text{slant height}, h = \text{height})</math></p> </div> <p>L. Surface Area = <math>\pi rl</math>            T. Surface Area = <math>\pi r(l + r)</math>            Volume = <math>1/3 \pi r^2 h</math></p>
<div style="text-align: center;"> <p><b>Parallelogram</b></p> </div> <p>Area = <math>\text{Base} \times \text{Height} = bh</math></p>	<div style="text-align: center;"> <p><b>Sphere</b></p> </div> <p>Surface Area = <math>4 \pi r^2</math>            Volume = <math>4/3 \pi r^3</math></p>

# Description

**Standard Size:** 70x100cms, Set of 5 Charts

**Language:** English

Synthetic Charts with Plastic Rollers. These Charts have technically accurate and detailed description in vivid colours.

**Note:** Based on minimum order quantity conditions, Charts can be customized to your requirements in terms of CONTENT, LANGUAGE, SIZE, etc. Please write back to us for discussion.

## A. Charts, Algebraic Identities

**ALGEBRAIC IDENTITIES**

**Product of 2 Binomials**  
 $(a + b)(c + d) = ac + ad + bc + bd$

**Product of a Monomial and a Binomial**  
 $k(a + b) = ka + kb$

**Multiplication of Binomials**  
 $(a + b)^2 = a^2 + 2ab + b^2$   
 $(a - b)^2 = a^2 - 2ab + b^2$   
 $(a + b)(a - b) = a^2 - b^2$

The square of a Binomial in the form  $(a + b)$  is equal to the square of the first term + square of the 2nd term + twice the product of both the terms.

The square of a Binomial in the form  $(a - b)$  is equal to the square of the first term - square of the 2nd term - twice the product of both the terms.

The product of the sum and difference of two quantities is equal to the difference in their squares.

$(a + b)^2 = a^2 + 2ab + b^2$   
 $(a - b)^2 = a^2 - 2ab + b^2$   
 $(a + b)(a - b) = a^2 - b^2$

## B. Charts, Shaped And Figures

**SHAPES AND FIGURES**

**Triangle**  
 A three-sided closed polygon. The sum of the angles of a triangle is 180 degrees.

**Scalene Triangle**  
 A triangle having three unequal sides.

**Isosceles Triangle**  
 A triangle having two equal sides.

**Equilateral Triangle**  
 A triangle having three sides of equal length. The angles are also equal (each 60 degrees).

**Right Triangle**  
 A triangle having a right angle (90 degrees). The side opposite the right angle is the hypotenuse.

**Obtuse Triangle**  
 A triangle having an obtuse angle (more than 90 degrees).

**Quadrilateral**  
 A four-sided closed polygon. The sum of the angles is 360 degrees.

**Parallelogram**  
 A four-sided polygon having opposite sides of equal length. The sum of the angles is 360 degrees.

**Rectangle**  
 A four-sided polygon having all right angles. The sum of the angles is 360 degrees.

**Square**  
 A four-sided polygon having equal sides and all right angles. The sum of the angles is 360 degrees.

**Rhombus**  
 A four-sided polygon having all four sides of equal length. The sum of the angles is 360 degrees.

**Regular Polygon**  
 A regular polygon is a polygon whose sides are all the same length and whose angles are equal. The sum of the angles of a polygon with  $n$  sides is  $(n - 2) \times 180$  degrees.

**Pentagon**  
 A five-sided polygon. The sum of the angles is 540 degrees.

**Hexagon**  
 A six-sided polygon. The sum of the angles is 720 degrees.

**Heptagon**  
 A seven-sided polygon. The sum of the angles is 900 degrees.

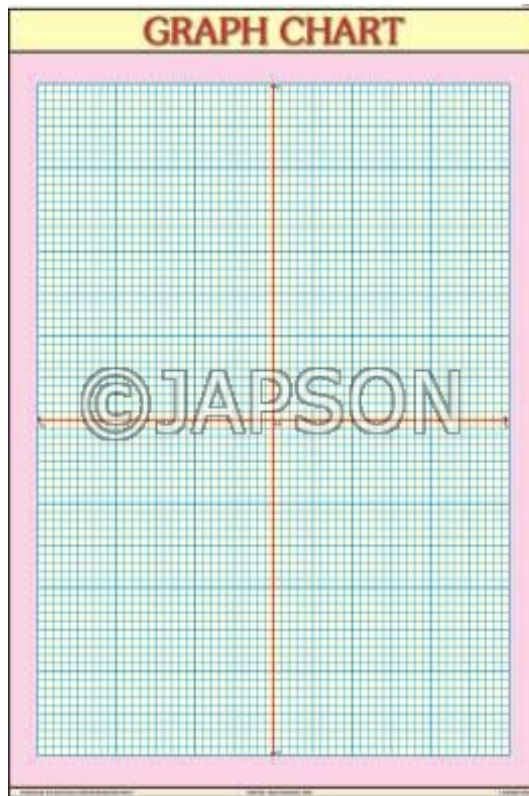
**Octagon**  
 An eight-sided polygon. The sum of the angles is 1080 degrees.

**Nonagon**  
 A nine-sided polygon. The sum of the angles is 1260 degrees.

## C. Charts, Mathematical Symbol

## D. Charts, Graph

MATHEMATICAL SYMBOL	
$+$ Plus; Positive	$\int$ Integral
$-$ Minus; Negative	$\sphericalangle$ Angle
$\pm$ Plus or minus; error margin	$\perp$ Perpendicular
$\mp$ Minus or plus	$\parallel$ Parallel
$\times$ Multiplied by	$\cong$ Congruent to
$\div$ Divided by	$\therefore$ Therefore
$=$ Equal to	$\because$ Because
$\neq$ Not equal to	$\forall$ For all
$\approx$ Approximately equal to	$\exists$ There exists
$\cdot$ Ratio or multiplication	$\cup$ Union
$>$ Greater than	$\cap$ Intersection
$<$ Less than	$\subset$ Is a subset of
$\propto$ Directly proportional to	$\not\subset$ Is not a subset of
$\infty$ Infinity	$\Rightarrow$ Implies that
$\sqrt{\quad}$ Square root	$\Leftarrow$ Is implied by
$!$ Factorial	$\Leftrightarrow$ If and only if
$\%$ Percent	$\dots$ etc.
$\nabla$ Del (differential operator)	$\circ$ Composite function
$^\circ$ Degrees	$\Delta$ Increment
	$\Sigma$ Sum



## E. Charts, Mensuration





# MENSURATION

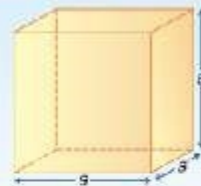
## A graphical list of the formulas for measurement concepts



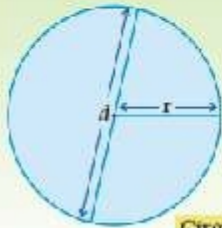
### Rectangle

Perimeter =  $2(\text{Length} + \text{Breadth}) = 2(l + b)$   
 Area =  $\text{Length} \times \text{Breadth} = lb$

### Cube



Lateral Surface Area =  $4 \times \text{Side} \times \text{Side} = 4s^2$   
 Total Surface Area =  $6 \times \text{Side} \times \text{Side} = 6s^2$   
 Volume =  $\text{Side} \times \text{Side} \times \text{Side} = s^3$

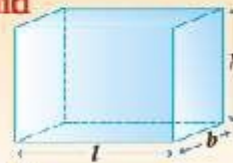


### Circle

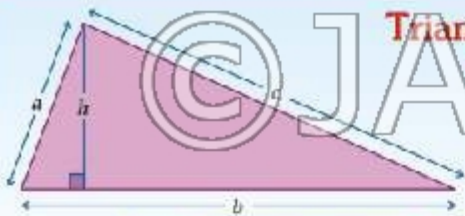
( $\pi = 3.14$ )

Area =  $\pi \text{ radius}^2 = \pi r^2$   
 Diameter =  $2 \text{ radius} = 2r$   
 Circumference =  $\pi \text{ diameter} = \pi d$   
 Circumference =  $2\pi \text{ radius} = 2\pi r$

### Rectangular Solid (Cuboid)



Lateral Surface Area =  $2h(l + b)$   
 Total Surface Area =  $2(lb + bh + lh)$   
 Volume =  $\text{Length} \times \text{Breadth} \times \text{Height} = lbh$

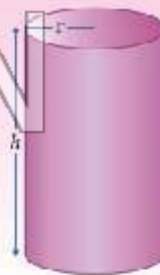


### Triangle

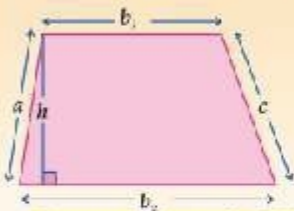
Area =  $1/2 \times \text{Base} \times \text{Height} = 1/2 bh$   
 Perimeter =  $\text{Sum of Three Sides} = a + b + c$

### Cylinder

( $\pi = 3.14$ ,  $r = \text{radius}$ ,  $h = \text{height}$ )



L. Surface Area =  $2\pi rh$   
 T. Surface Area =  $2\pi r(h + r)$   
 Volume =  $\pi r^2 h$

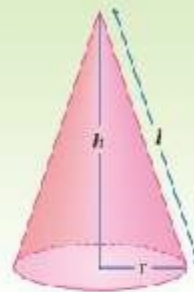


### Trapezium

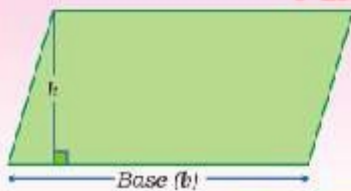
Perimeter =  $\text{Sum of All Sides} = a + b_1 + b_2 + c$   
 Area =  $1/2 (\text{Sum of Parallel Sides}) \times \text{Height}$   
 Area =  $1/2 (b_1 + b_2) h$

### Cone

( $\pi = 3.14$ ,  $r = \text{radius}$ )  
( $l = \text{slant height}$ ,  $h = \text{height}$ )



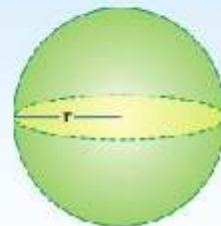
L. Surface Area =  $\pi rl$   
 T. Surface Area =  $\pi r(l + r)$   
 Volume =  $1/3 \pi r^2 h$



### Parallelogram

Area =  $\text{Base} \times \text{Height} = bh$

### Sphere



Surface Area =  $4 \pi r^2$   
 Volume =  $4/3 \pi r^3$

## Disclaimer

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The Products details given on this page are indicative in nature and JAPSON reserves the right to change them without prior notice. Buyer is also requested to re-check the specifications and other features of product at the time of order as product development is a continuous process and minor modifications may be made to design based on latest availability, process and design.