

Demo class

Relevant Topics comparison from 8th to 10th std.

class 8 th	class 9 th	class 10 th
① Rational Numbers	① Number System	① Real Numbers
② Linear equations in one variable	② Linear equations in two variables	② Pair of Linear equations in two variables
③	③ Polynomials	③ Polynomials.
④ Algebraic Expressions and Identities	④	④ Quadratic Equations
(4-a) Factorisation		(4-a) Arithmetic Progression
⑤ Introduction to Graphs	⑤ Coordinate Geometry	⑤ Coordinate Geometry
(5-a) Data Handling	(5-a) Statistics	(5-a) Statistics.
⑥ Geometry	⑥ Geometry	⑥ Geometry
(6-a) Quadrilaterals	(6-a) Quadrilaterals	(6-a)
(6-b) Mensurations	(6-b) Euclid's Geometry	(6-b) Triangles
(6-c)	(6-c) Lines and Angles	(6-c) Introduction to Trigonometry
(6-d)	(6-d) Triangles	(6-d) Application of Trigonometry
(6-e)	(6-e) Circle	(6-e) circles
(6-f)	(6-f) Heron's formula	(6-f) Areas Related to circles
(6-g)	(6-g) Surface Area and volumes	(6-g) surface Areas and volume
⑦ Other topics		
(7-a) square and square Roots		
(7-b) cube and cube Roots		
(7-c) Exponents and Powers		
(7-d) Direct and inverse proportions		

9th.	10th.
<p>Factorisation of Polynomials problem</p> <p>(i) $12x^2 - 7x + 1$</p> <p>We have to factorise above term</p> <p>so $12x^2 - 4x - 3x + 1$</p> <p>(By applying splitting the middle term approach)</p> <p>so $4x(3x-1) - 1(3x-1)$</p> <p>$(4x-1)(3x-1)$</p> <p>(ii) $x^3 - 2x^2 - x + 2$</p> <p>We have to factorise above expression</p> <p>so $x^3 - x^2 - x^2 - x + 2$</p> <p>or</p> <p>$x^3 + x^2 - 3x^2 - 3x + 2x + 2$</p> <p>$x^2(x+1) - 3x(x+1) + 2(x+1)$</p> <p>$(x+1)(x^2 - 3x + 2)$</p> <p>↓</p> <p>Further $x^2 - 3x + 2$</p> <p>so $x^2 - 2x - x + 2$</p> <p>$x(x-2) - 1(x-2)$</p> <p>$(x-2)(x-1)$</p> <p>so $(x+1)(x-1)(x-2)$</p>	<p>Linear Equations Problem</p> <p>(i) $x + y = 12$</p> <p>$x - y = 4$</p> <p>We have to solve above pair of equation by substitution method.</p> <p>so let us assume</p> <p>$x + y = 12$ ——— (1)</p> <p>$x - y = 4$ ——— (2)</p> <p>from equation (2)</p> <p>$x = y + 4$ — (3)</p> <p>Substitute the value of x from equation (3) into eq. (1)</p> <p>We get</p> <p>$(y+4) + y = 12$</p> <p>↓</p> <p>$2y + 4 = 12$</p> <p>↓</p> <p>$2y = 8$</p> <p>$y = 4$</p> <p>so $x = 8$</p>

Demo class

9th

Heron's Formula

① Find the area of a triangle two sides of which are 8cm and 11 cm and the perimeter is 32 cm

Data Given :

Δ Perimeter $(2S) = 32 \text{ cm}$

Side (a) = 8 cm

Side (b) = 11 cm

As we know .

$2S = a + b + c$

hence $c = 32 - (8 + 11) \text{ cm}$
 $= 13 \text{ cm}$

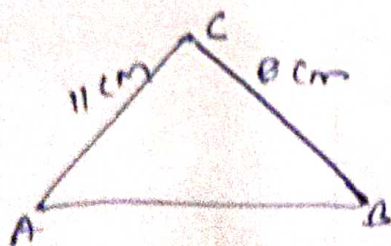
hence Area of triangle

$= \sqrt{s(s-a)(s-b)(s-c)}$

$= \sqrt{16(16-8)(16-11)(16-13)}$

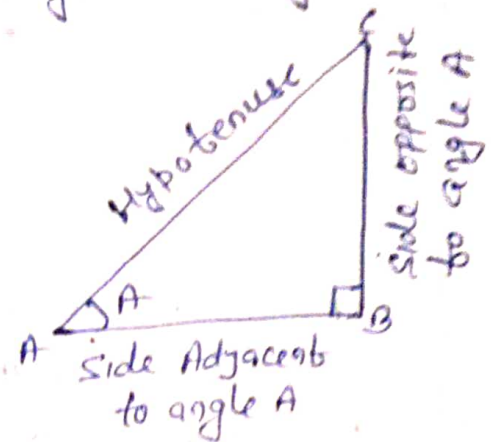
$= \sqrt{16 \times 8 \times 5 \times 3} \text{ cm}^2$

$= 8\sqrt{30} \text{ cm}^2$



10th

Trigonometry



In this right angle Δ we will defined some geometrical forms which we called trigonometric ratio

$\text{Sine of } \angle A = \frac{\text{Side opposite to angle A}}{\text{hypotenuse}}$
 $= \frac{BC}{AC}$

$\text{cosine of } \angle A = \frac{AB}{AC}$

$\text{tangent of } \angle A = \frac{BC}{AB}$

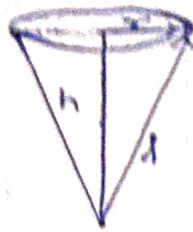
$\text{cosecant of } \angle A = \frac{AC}{BC}$

$\text{secant of } \angle A = \frac{AC}{AB}$

$\text{cotangent of } \angle A = \frac{AB}{BC}$

9th

Surface Areas and Volumes



- Find the curved surface area of a right circular cone whose slant height is 10 cm and base radius is 7 cm.

We know that

Curved Surface Area

$$= \pi r l$$

$$= \frac{22}{7} \times 7 \times 10 \text{ cm}^2$$

$$= 220 \text{ cm}^2$$

The height of a cone is 16 cm and its base radius is 12 cm. Find the CSA and TSA of the cone.

We know that

$$l = \sqrt{h^2 + r^2} = \sqrt{16^2 + 12^2}$$

$$= 20 \text{ cm}$$

$$\text{CSA} = \pi r l$$

$$= 3.14 \times 12 \times 20 \text{ cm}^2$$

$$= 753.6 \text{ cm}^2$$

$$\text{TSA} = \pi r l + \pi r^2$$

10th