Leyan Series IN Mathematics

Final Revision

Four Primary Stage

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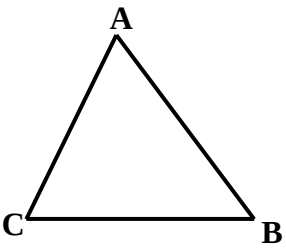
Triangles



Triangle : is a polygon consisting of three line segment .

Any triangles have three angles , three sides and three vertices .

Three Angles $\angle A$, $\angle B$, $\angle C$,,, ,,,, Three Sides $\overline{AB}$, $\overline{BC}$, $\overline{AC}$

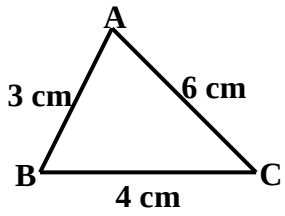
Three Vertices A , B , C

Types Of Triangles According its sides lengths

Scalene triangle

All sides lengths are

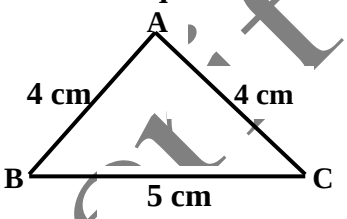
Different



Isosceles triangle

Two sides lengths are

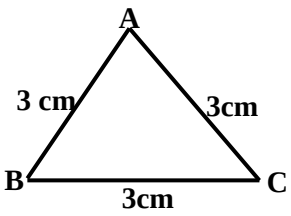
equal



Equilateral triangle

All sides length are

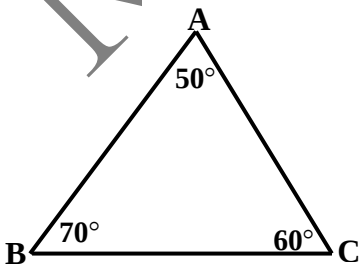
equal



Types Of Triangles According its Angles measures

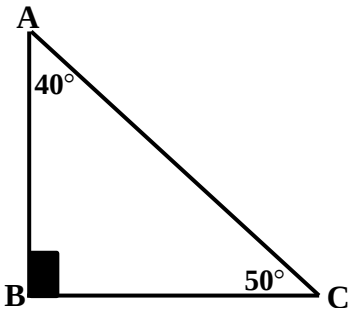
Acute Angled

All the angles less than 90°



Right Angled

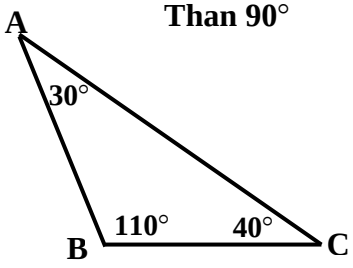
One angle = 90°



Obtuse angled

One angle greater

Than 90°



In Any triangles there are at least Two acute angles .

The sum of the measures of the interior angles of Any triangle = 180°

Polygons

Polygon : **It is a closed shape consisting of three line segment or more .**

The Name of the polygon is naming according to the number of its sides .

For Any Polygon

The number of its vertices = The number of its sides = The number of its angles

The Diagonal : **It's a line segment joining between two non Consecutive points . Like $\overline{BD}$**

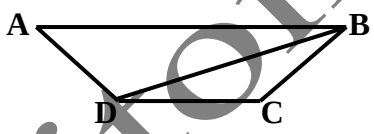
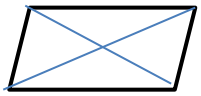
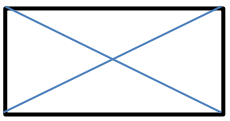
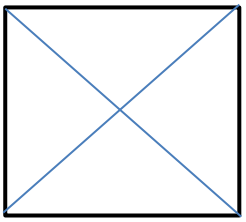
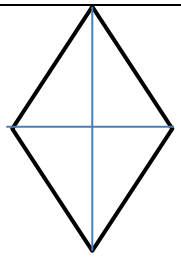
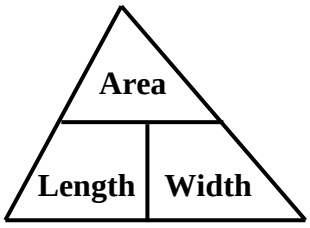


Figure name	*Sides*	*Angles*	*Diagonals*	*Drawing*
Parallelogram	(1) Each two opposite sides are equal in length . (2) Each two opposite sides are Parallel		(1) The two diagonals are bisects each other .	
Rectangle	(1) Each two opposite sides are equal in length . (2) Each two opposite sides are Parallel .	(1) All the angles are equal in measures , and Each angle = 90°	(1) The two diagonals are bisects each other . (2) The two diagonals are equal in length .	
Square	(1) All sides are equal in length . (2) Each two opposite sides are Parallel .	(1) All the angles are equal in measures , and Each angle = 90°	(1) The two diagonals are bisects each other . (2) The two diagonals are equal in length . (3) the two diagonals Perpendicular (orthogonal)	
Rhombus	(1) All sides are equal in length . (2) Each two opposite sides are Parallel .		(1) The two diagonals are bisects each other . (2) the two diagonals Perpendicular (orthogonal)	
Trapezium	It's a quadrilateral Two opposite sides are parallel and the two other not .			

The perimeter of a square = side length × 4

The Area of a square = side length × side length

Side length = $\frac{perimeter\ of\ square}{4}$



The perimeter of a rectangle = (length + width) × 2

Half The perimeter of a rectangle = (length + width)

The Area of a rectangle = length × width

Example **(1) Find the perimeter of a square its side length = 5 cm .**

The perimeter of a square = side length × 4

The perimeter of a square = 5 × 4 = 20 cm .

Example **(2) Find the Side length of a square its perimeter = 28 cm**

Side length = $\frac{perimeter\ of\ square}{4} = \frac{28}{4} = 7\ cm$

Example **(3) Find the Area of a square its side length = 7 cm**

The Area of a square = side length × side length = 7 × 7 = 49 cm^2

Example **(4) Find the side length of a square its Area = 81 cm^2**

The Area of a square = side length × side length = 81 = side length × side length

Side length = 9 cm

Example **(5) Find the perimeter of a rectangle its length = 5 cm and width = 3cm .**

The perimeter of a rectangle = (length + width) × 2 = (5 + 3) × 2 = 16 cm

Example **(6) Find the length of a rectangle its perimeter = 18 cm and width = 3cm .**

Half The perimeter of a rectangle = (length + width)

9 = Length + 3 ,,,,,,, Length = 6 cm

Example **(7) Find the Width of a rectangle its perimeter = 20 cm and Length = 7cm .**

Half The perimeter of a rectangle = (length + width)

10 = 7 + Width ,,,,,,, Width = 3 cm .

Example **(8) Find the Area of a rectangle its length = 7 cm and width = 4 cm .**

The Area of a rectangle = length × width = 7 × 4 = 28 cm^2

Example **(9) Find the length of a rectangle its Area = 45 cm and width = 5 cm .**

Length of a rectangle = $\frac{Area}{width}$ = $\frac{45}{5}$ = 9 cm , length = 9 cm

* The smallest prime number is 2

* The only even prime number is 2 or All the prime number is odd except 2

* The common multiplies for all numbers is 0

* The common Factor for all numbers is 1

* The measure of the a cute angle is less than 90°

* The measure of the right angle = 90°

* The measure of the a obtuse angle is greater than 90°

* The smallest number formed from 7 digits is million .

* The smallest number formed from 10 digits is Billion or milliard .

* The polygon that has 5 sides is Pentagon

* The polygon that has 6 sides is Hexagon

* The polygon that has 7 sides is Heptagon

* The polygon that has 4 sides is quadrilateral

* The number of the factors of prime number is 2 factors

* The two intersection straight lines intersect at a point

* The two perpendicular straight lines intersect at a point and formed Four right - angles and each angle = 90°

* Find the H . C . F and The L . C . M for 12 , 30 and 60 . Factorize

12 = 2 × 2 × 3

30 = 2 × 3 × 5

60 = 2 × 2 × 3 × 5

H . C . F = 2 × 3 = 6

L . C . M = 2 × 3 × 2 × 2 × 5 × 5 = 600

12	2	30	5	60	5
6	2	6	2	12	2
3	3	3	3	6	3
1		1		2	2
				1	

* The three common multiplies of 2 and 3 is 0 , 6 , 18

* The number that the factor of it 3 and 11 is 3 × 11 = 33

6 543 021	1	2	0	3	4	5	6		
Place Value	Units	tens	hundreds	thousands	Ten thousands	Hundred thousands	Millions		
Value	1	20	0	3 000	40 000	500 000	6 000 000		

* The place value of the digit 8 in the number 8 214 356 is millions

* The value of the digit 6 in the number 8 236 189 is 6 000 or six thousand

9 351 264 078	5	3	9
Place Value	Ten millions	Hundred millions	Milliards or Billions
Value	50 000 000	300 000 000	9 000 000 000

The Length

Units of measuring length :

Km $\xrightarrow{\times 1000}$ m $\xrightarrow{\times 10}$ dm $\xrightarrow{\times 10}$ cm $\xrightarrow{\times 10}$ mm

To convert from greatest unit to smallest unit we Multiplying . Like

3 Km = 3000 m , 5 m = 500 cm , 2 m = 2000 mm , 7 dm = 70 cm

mm $\xrightarrow{\div 10}$ cm $\xrightarrow{\div 10}$ dm $\xrightarrow{\div 10}$ m $\xrightarrow{\div 1000}$ Km

To convert from greatest unit to smallest unit we dividing . Like

200 cm = 2 m , 30 000 dm = 3 km , 40 mm = 4 cm

The Area

Units of measuring Area :

Km^2 $\xrightarrow{\times 1000\,000}$ m^2 $\xrightarrow{\times 100}$ dm^2 $\xrightarrow{\times 100}$ cm^2 $\xrightarrow{\times 100}$ mm^2

To convert from greatest unit to smallest unit we Multiplying . Like

3 Km^2 = 3 000 000 m^2 , 5 m^2 = 50 000 cm^2 , 2 m^2 = 2 000 000 mm^2 , 7 dm^2 = 700 cm^2

mm^2 $\xrightarrow{\div 100}$ cm^2 $\xrightarrow{\div 100}$ dm^2 $\xrightarrow{\div 100}$ m^2 $\xrightarrow{\div 1\,000\,000}$ Km^2

To convert from greatest unit to smallest unit we dividing . Like

20 000 cm^2 = 2 m^2 , 30 000 dm^2 = 300 m^2 , 400 mm^2 = 4 cm^2

Example (1) Which is greater in area a rectangle whose dimensions 5 cm and 3cm or a square whose perimeter is 12 cm . *Solution*

The area of a rectangle = length × width = 5 × 3 = 15 cm^2

The side length of a square = the perimeter of a square ÷ 4 = 12 ÷ 4 = 3 cm

The area of a square = side length × side length = 3 × 3 = 12 cm^2

The area of a rectangle > The area of a square .

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* The triangle whose sides length are 3 cm , 4 cm and 3 cm is called Isosceles triangle .

* Triangle ABC in which m(∠A) = m(∠B) = 45° is called Right – angled triangle .and m(∠C) = 90°

The sum of the angles m(∠A) + m(∠B) + m(∠C) = 180°

m(∠C) = 180° --- (45° + 45°) = 180° --- 90° = 90°