

- 1. The Triangle is Flat.**
- 2. The Triangle is 2-Dimensional.**
- 3. Triangles have 3 Sides and 3 Interior Angles.**
- 4. The Sum of its Interior Angles are always 180 Degrees.**
- 5. A Triangle whose Sides are All Equal is called Equilateral.**
- 6. Each Angle in an Equilateral Triangle is 60 Degrees.**
- 7. An Equilateral Triangle is a 60,60,60 Triangle.**
- 8. A Triangle Containing a 90 Degree Angle is called a Right Triangle.**
- 9. The Side Opposite to the 90 Degree Angle is called the Hypotenuse.**
- 10. The other 2 Sides of a Right Triangle are called its Legs.**
- 11. The Legs of a Right Triangle may or may not be Equal to one another.**

12. **The Boundary or Limits of a Triangle are called its Perimeter.**
13. **The Perimeter of a Triangle is Found by Adding the Lengths of all 3 Sides.**
14. **The Length of the Hypotenuse is Found by taking the Square Root of the Sum of the Square of one Leg and the Square of the other Leg; given by :  $H^2 = H_O^2 + H_A^2$  , where  $H_O$  and  $H_A$  are the Legs of the Triangle and H is the Hypotenuse.**
15. **If We Draw a Line from one of its 3 Interior Intersecting Points to meet its Opposite Side Perpendicularly, then that line is called the Height and that Opposite Side is called the Base of the Triangle.**
16. **The Area of a Triangle is Found by Multiplying the Base and the Height and Dividing the Product by 2.**
17. **The Area of a Triangle is One-Half Base times Height.**
18. **Trigonometry is used in Physics, especially the Sine, Cosine and Tangent Functions of an angle Theta,  $\theta$ . These Functions are Defined Relative to an Arbitrarily Chosen**

Angle labeled Theta,  $\theta$ ; where  $H_O$  is the Side Opposite Theta  $\theta$ ,  $H_A$  is the Side Adjacent to  $\theta$  and the Hypotenuse is H.

19. Theta,  $\theta$ , can be any Angle Except for the Right Angle.

20. The Sin of an Angle  $\theta$  is :  $\text{Sin } \theta = H_O \div H$

21. The Cosine of an Angle  $\theta$  is :  $\text{Cos } \theta = H_A \div H$

22. The Tangent of an Angle  $\theta$  is :  $\text{Tan } \theta = H_A \div H_O$

23. The Law of Sines states that :

$$a \div \sin A = b \div \sin B = c \div \sin C$$

Where a, b and c are the Sides of the Triangle and A, B and C are their Corresponding Angles.

24. The Law of Cosines States that :

$$c^2 = a^2 + b^2 - 2ab(\cos C)$$

Where a,b and c are the Sides of the Triangle and C is the Angle that Corresponds to c.

Also, c is the Shortest Side and C is the Smallest Angle.