Sunday, October 17, 2021

10:21 AM

TRIGONOMETRY



$$an\theta = \frac{0}{A} = \frac{\sin \theta}{\cos \theta}$$

cosec	0	=	Sino	
Cas	Δ	_)	

Sec
$$\theta = \frac{1}{\cos \theta}$$

$$\cot \theta = \frac{1}{\tan \theta} = \frac{\cos \theta}{\sin \theta}$$

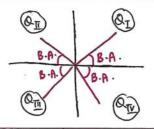
Negative Angle

$$\star$$
 cos(-0) = cos0 \star
sin(-0) = -sin0
tan(-0) = -tan0

Spe	cial A	ngle	
	30°	45°	60°
Sin	네	12	53
cos	13	52 2	立
tan	十	1	13

$$sin(90^{\circ}-0) = cos\theta$$

 $cos(90^{\circ}-0) = sin\theta$
 $tan(90^{\circ}-0) = cot\theta$



Quadrant & Basic Angle (B.A) (Q)

Basic Trigo. Identifies

•
$$\sin^2 \theta + \cos^2 \theta = 1$$

•
$$1 + \cot^2 \theta = \csc^2 \theta$$

•
$$tan^20 + 1 = sec^20$$

Double Angle Formulae

•
$$\cos 2\theta = \cos^2 \theta - \sin^2 \theta$$

= $2\cos^2 \theta - 1$
= $1 - 2\sin^2 \theta$

•
$$tan20 = \frac{2tan0}{1-tan^20}$$

[Compound Angle Formulae]

- · sin(A+B) = sin AcosB + cos A sin B
- · cos (A+B) = cos A cos B = sin A sin B
- $tan(A + B) = \frac{tanA + tanB}{1 + tanA + tanB}$

The Substitution t= tan =

•
$$\tan \theta = \frac{2t}{1-t^2}$$

$$\cos \theta = \frac{1-t^2}{1+t^2}$$

Factor Formulae

sin(A+B) + sin(A-B) = 2sin AcosB

sin(A+B) - sin(A-B) = 2 cos AsinB

cos(A+B) + cos(A-B) = 2cosAcosB

 $sin P + sin Q = 2 sin(\frac{P+0}{2}) cos(\frac{P-0}{2})$

sin P - sin Q = 2 cos (Ptd) sin (Pd)

cosp + cos Q = 2 cos (PtQ) cos (P-A)

(os (A+B) - cos (A-B) = -2 sin Asin B cos P - cos Q = -2 sin (P+Q) sin (P-Q)

Graphs

