

Name :

Class :

# Trigonometric Expressions



A trigonometric expression is a mathematical expression that involves trigonometric functions, such as: Sine (sin) Cosine (cos) Tangent (tan) Cotangent (cot) Secant (sec) Cosecant (csc).

Sine	Sin	$\sin \angle B = \frac{\text{Opposite}}{\text{Hypotenuse}}$
Cosine	Cos	$\cos \angle B = \frac{\text{Adjacent}}{\text{Hypotenuse}}$
Tangent	Tan	$\tan \angle B = \frac{\text{Opposite}}{\text{Adjacent}}$
Secant	Sec	$\sec \angle B = \frac{\text{Hypotenuse}}{\text{Adjacent}}$
Cosecant	Csc	$\csc \angle B = \frac{\text{Hypotenuse}}{\text{Opposite}}$
Cotangent	Cot	$\cot \angle B = \frac{\text{Adjacent}}{\text{Opposite}}$

Simplify the following trigonometric expression.

1) 
$$\frac{\sec^2 t - 1}{\tan t}$$



2) 
$$\frac{\cot^2 t \cos^2 t}{\cot^2 t - \cos^2 t}$$



3) 
$$\frac{\tan t + 1}{\sec t}$$



4) 
$$\frac{\sin^2 t - \tan^2 t}{\tan^2 t \sin^2 t}$$



5) 
$$\frac{1 + \cot t}{\csc t}$$



6) 
$$\frac{(\sin t + \tan t)^2 + \cos^2 t - \sec^2 t}{\tan t}$$

