

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) $\frac{\tan^2 t + 1}{1 + \cot^2 t}$



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



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



4) $\frac{\sin^2 t \cot^2 t}{1 - \sin^2 t}$



5) $\sec t \tan t \cos t$



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

