



## Trigonometry Identities - Pythagorean Ratio Cancellation (with Identity, Single Identity and Sin/Cos Ratio)

1

Simplify this expression using trig identities

Using:

$$\cos^2(\alpha) + \sin^2(\alpha) = 1$$

Simplify:

$$\frac{\frac{\cos^2(\alpha)}{\sin^2(\alpha)}}{1 - \sin^2(\alpha)}$$

A  $\tan^2(\alpha)$     B  $\csc^2(\alpha)$

C  $\cos^2(\alpha)$

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Using:  
$$\cos^2(\theta) + \sin^2(\theta) = 1$$

Simplify:

$$\frac{1 - \cos^2(\theta)}{\frac{\sin^2(\theta)}{\cos^2(\theta)}}$$

Simplify this expression using trig identities

A  $\cos^2(\theta)$     B  $\cot^2(\theta)$

C  $\csc^2(\theta)$

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3

Simplify this expression using trig identities

Using:

$$\cos^2(\alpha) + \sin^2(\alpha) = 1$$

Simplify:

$$\left(\frac{\sin^2(\alpha)}{\cos^2(\alpha)}\right)(1 - \sin^2(\alpha)) \tan^2(\alpha) \sin^2(\alpha)$$

A  $\tan^2(\alpha)$     B  $\sin^2(\alpha)$

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4

Simplify this expression using trig identities

Using:

$$\cos^2(\gamma) + \sin^2(\gamma) = 1$$

Simplify:

$$\frac{1 - \cos^2(\gamma)}{\frac{\sin^2(\gamma)}{\cos^2(\gamma)}}$$

A  $\csc^2(\gamma)$     B  $\cos^2(\gamma)$

C  $\tan^2(\gamma)$

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5

Simplify this expression using trig identities

Using:

$$\cos^2(\alpha) + \sin^2(\alpha) = 1$$

Simplify:

$$\left(\frac{\cos^2(\alpha)}{\sin^2(\alpha)}\right)(1 - \cos^2(\alpha))$$

A  $\cot^2(\alpha)$     B  $\sin^2(\alpha)$

C  $\cos^2(\alpha)$

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6

Simplify this expression using trig identities

Using:

$$\cos^2(\theta) + \sin^2(\theta) = 1$$

Simplify:

$$(1 - \cos^2(\theta))\left(\frac{\cos^2(\theta)}{\sin^2(\theta)}\right)$$

A  $\tan^2(\theta)$     B  $\cos^2(\theta)$

C  $\csc^2(\theta)$

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7

Simplify this expression using trig identities

Using:

$$\cos^2(\beta) + \sin^2(\beta) = 1$$

Simplify:

$$\left(\frac{\cos^2(\beta)}{\sin^2(\beta)}\right)(1 - \cos^2(\beta))$$

A  $\cos^2(\beta)$     B  $\csc^2(\beta)$

C  $\sec^2(\beta)$

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8

Simplify this expression using trig identities

Using:

$$\cos^2(\beta) + \sin^2(\beta) = 1$$

Simplify:

$$\frac{\frac{\cos^2(\beta)}{\sin^2(\beta)}}{1 - \sin^2(\beta)}$$

A  $\cos^2(\beta)$     B  $\sin^2(\beta)$

C  $\csc^2(\beta)$

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