

Show all work for credit. Check your solutions at <http://www.mathguide.com/cgi-bin/quizmasters2/TE.cgi>.

1) Place these steps in order to simplify: $\cot \alpha (1 - \cos^2 \alpha) \sec \alpha$

Step #	Trigonometric Expression
<input type="text" value="0"/>	$\frac{\cos \alpha}{\sin \alpha} \cdot \frac{(1 - \cos^2 \alpha)}{1} \cdot \frac{1}{\cos \alpha}$
<input type="text" value="0"/>	$\frac{\sin^2 \alpha}{\sin \alpha}$
<input type="text" value="0"/>	$\frac{1}{\sin \alpha} \cdot \frac{(1 - \cos^2 \alpha)}{1} \cdot \frac{1}{1}$
<input type="text" value="0"/>	$\sin \alpha$
<input type="text" value="0"/>	$\cot \alpha (1 - \cos^2 \alpha) \sec \alpha$
<input type="text" value="0"/>	$\frac{1}{\sin \alpha} \cdot \frac{\sin^2 \alpha}{1}$

2) Place these steps in order to simplify: $\frac{\tan^2 \beta + 1}{1 + \cot^2 \beta}$

Step #	Trigonometric Expression
<input type="text" value="0"/>	$\frac{1}{\cos^2 \beta} \div \frac{1}{\sin^2 \beta}$
<input type="text" value="0"/>	$\frac{\sin^2 \beta}{\cos^2 \beta}$
<input type="text" value="0"/>	$\frac{\tan^2 \beta + 1}{1 + \cot^2 \beta}$
<input type="text" value="0"/>	$\frac{1}{\cos^2 \beta} \cdot \frac{1}{\sin^2 \beta}$
<input type="text" value="0"/>	$\frac{1}{\cos^2 \beta} \cdot \frac{\sin^2 \beta}{1}$
<input type="text" value="0"/>	$\tan^2 \beta$
<input type="text" value="0"/>	$\frac{\sec^2 \beta}{\csc^2 \beta}$

3) Place these steps in order to simplify: $\frac{\cos^2 t \tan^2 t}{1 - \cos^2 t}$

Step #	Trigonometric Expression
0 ▾	$\frac{1}{1} \cdot \frac{1}{1}$
0 ▾	1
0 ▾	$\frac{\cos^2 t}{\sin^2 t} \cdot \frac{\sin^2 t}{\cos^2 t}$
0 ▾	$\frac{\cos^2 t \tan^2 t}{\sin^2 t}$
0 ▾	$\frac{\cos^2 t}{\sin^2 t} \cdot \tan^2 t$
0 ▾	$\frac{\cos^2 t \tan^2 t}{1 - \cos^2 t}$

4) Place these steps in order to simplify: $\sec y (\cos^2 y - 1) \sec y \csc y \cos y$

Step #	Trigonometric Expression
0 ▾	$-\sin^2 y \frac{1}{\cos^2 y} \frac{1}{\sin y} \cos y$
0 ▾	$\sec y (\cos^2 y - 1) \sec y \csc y \cos y$
0 ▾	$(\cos^2 y - 1) \sec^2 y \csc y \cos y$
0 ▾	$-\tan y$
0 ▾	$-\frac{\sin y}{\cos y}$