Name

Trigonometry Identities - Pythagorean Problem Sec to Tan (with Identity, Quadrant as Degrees)

1

Using:
$\sec^2(\theta) = \tan^2(\theta) + 1$
$90^\circ < \theta < 180^\circ$

Solve for tangent from secant using trig identities

Solve:
$\sec(\theta) = -2$
$\tan(\theta) = ?$

A	B
$\tan(\theta) = -\sqrt{2}$	$\tan(\theta) = -\sqrt{3}$

2

Using:
$\sec^2(\alpha) = \tan^2(\alpha) + 1$
$180^\circ < \alpha < 270^\circ$

Solve for tangent from secant using trig identities

Solve:
$\sec(\alpha) = -2$
$\tan(\alpha) = ?$

A	B
$\tan(\alpha) = 1$	$\tan(\alpha) = \sqrt{3}$

3

Using:
$\sec^2(\beta) = \tan^2(\beta) + 1$
$0^\circ < \beta < 90^\circ$

Solve for tangent from secant using trig identities

Solve:
$\sec(\beta) = 5$
$\tan(\beta) = ?$

A	B
$\tan(\beta) = -2\sqrt{6}$	$\tan(\beta) = 2\sqrt{6}$

4

Using:
$\sec^2(\theta) = \tan^2(\theta) + 1$
$0^\circ < \theta < 90^\circ$

Solve for tangent from secant using trig identities

Solve:
$\sec(\theta) = 2$
$\tan(\theta) = ?$

A	B
$\tan(\theta) = -\sqrt{3}$	$\tan(\theta) = \sqrt{3}$

5

Using:
$\sec^2(\beta) = \tan^2(\beta) + 1$
$90^\circ < \beta < 180^\circ$

Solve for tangent from secant using trig identities

Solve:
$\sec(\beta) = -6$
$\tan(\beta) = ?$

A	B
$\tan(\beta) = -\sqrt{59}$	$\tan(\beta) = -\sqrt{35}$

6

Using:
$\sec^2(\beta) = \tan^2(\beta) + 1$
$270^\circ < \beta < 360^\circ$

Solve for tangent from secant using trig identities

Solve:
$\sec(\beta) = 3$
$\tan(\beta) = ?$

A	B
$\tan(\beta) = 2\sqrt{2}$	$\tan(\beta) = -2\sqrt{2}$

7

Using:
$\sec^2(\gamma) = \tan^2(\gamma) + 1$
$180^\circ < \gamma < 270^\circ$

Solve for tangent from secant using trig identities

Solve:
$\sec(\gamma) = -4$
$\tan(\gamma) = ?$

A	B
$\tan(\gamma) = -\sqrt{15}$	$\tan(\gamma) = \sqrt{15}$

8

Using:
$\sec^2(\beta) = \tan^2(\beta) + 1$
$0^\circ < \beta < 90^\circ$

Solve for tangent from secant using trig identities

Solve:
$\sec(\beta) = 3$
$\tan(\beta) = ?$

A	B
$\tan(\beta) = 2\sqrt{2}$	$\tan(\beta) = \frac{2\sqrt{2}}{\sqrt{2}}$