Name

Trigonometry Identities - Pythagorean Problem Csc to Cot (with Identity, Quadrant as Radians)

1

Using:
$\csc^2(\gamma) = \cot^2(\gamma) + 1$
$\pi < \gamma < \frac{3\pi}{2}$

Solve for cotangent from cosecant using trig identities

Solve:
$\csc(\gamma) = -5$
$\cot(\gamma) = ?$

A	B
$\cot(\gamma) = 2\sqrt{5}$	$\cot(\gamma) = 2\sqrt{6}$

2

Using:
$\csc^2(\alpha) = \cot^2(\alpha) + 1$
$0 < \alpha < \frac{\pi}{2}$

Solve for cotangent from cosecant using trig identities

Solve:
$\csc(\alpha) = 2$
$\cot(\alpha) = ?$

A	B
$\cot(\alpha) = \sqrt{3}$	$\cot(\alpha) = \sqrt{6}$

3

Using:
$\csc^2(\alpha) = \cot^2(\alpha) + 1$
$\frac{\pi}{2} < \alpha < \pi$

Solve for cotangent from cosecant using trig identities

Solve:
$\csc(\alpha) = 5$
$\cot(\alpha) = ?$

A	B
$\cot(\alpha) = -\sqrt{6}$	$\cot(\alpha) = -2\sqrt{6}$

4

Using:
$\csc^2(\beta) = \cot^2(\beta) + 1$
$0 < \beta < \frac{\pi}{2}$

Solve for cotangent from cosecant using trig identities

Solve:
$\csc(\beta) = 8$
$\cot(\beta) = ?$

A	B
$\cot(\beta) = 3\sqrt{7}$	$\cot(\beta) = -3\sqrt{7}$

5

Using:
$\csc^2(\beta) = \cot^2(\beta) + 1$
$\frac{3\pi}{2} < \beta < 2\pi$

Solve for cotangent from cosecant using trig identities

Solve:
$\csc(\beta) = -9$
$\cot(\beta) = ?$

A	B
$\cot(\beta) = 4\sqrt{5}$	$\cot(\beta) = -4\sqrt{5}$

6

Using:
$\csc^2(\beta) = \cot^2(\beta) + 1$
$\pi < \beta < \frac{3\pi}{2}$

Solve for cotangent from cosecant using trig identities

Solve:
$\csc(\beta) = -9$
$\cot(\beta) = ?$

A	B
$\cot(\beta) = 4\sqrt{5}$	$\cot(\beta) = 2\sqrt{21}$

7

Using:
$\csc^2(\beta) = \cot^2(\beta) + 1$
$\frac{\pi}{2} < \beta < \pi$

Solve for cotangent from cosecant using trig identities

Solve:
$\csc(\beta) = 9$
$\cot(\beta) = ?$

A	B
$\cot(\beta) = -7\sqrt{2}$	$\cot(\beta) = -4\sqrt{5}$

8

Using:
$\csc^2(\gamma) = \cot^2(\gamma) + 1$
$\pi < \gamma < \frac{3\pi}{2}$

Solve for cotangent from cosecant using trig identities

Solve:
$\csc(\gamma) = -8$
$\cot(\gamma) = ?$

A	B
$\cot(\gamma) = -3\sqrt{7}$	$\cot(\gamma) = 3\sqrt{7}$